

LDC #25382 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane (8260B-S)		1,2,3-TCP (524.2)		SVOA (8270C)		PCP (8270C -LL)		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (OK-DEQ)		EDB (504.1)		Formaldehyde (8315)		Hexachlorophene (8321A)		OPHS Pest. (8141A)		Herbs (8151A)			
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S		
Matrix: Water/Soil																																					
A	280-14379-1 IUD0891	05/02/11	05/23/11	11	0	11	0	11	0	8	0	4	0	4	0	4	0	4	0	4	0	4	0	4	0	4	0	6	0	8	0	4	0	4	0	4	0
B	280-14379-2	05/02/11	05/23/11	-	-	-	-	-	-	-	-	-	-	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
C	280-14432-1/ IUD1055	05/02/11	05/23/11	8	0	8	0	8	0	6	0	1	0	6	0	1	0	1	0	3	0	3	0	4	0	4	0	2	0	6	0	1	0	1	0	1	0
Total																																					
T/PG				19	0	19	0	19	0	14	0	5	0	18	0	5	0	5	0	5	0	7	0	7	0	8	0	8	0	14	0	5	0	5	0	5	0

LDC #25382 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydrazine (DVWC)		Dioxins (8290)		Alk. (2320B)		NH ₃ -N (350.1)		Cl SO ₄ (300.0)		F NO ₃ (300.0)		CN- (9012A)		Cond. (2510B)		CLO ₄ (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)		S= (4500 -S2-D)			
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
Matrix: Water/Soil																																			
A	280-14379-1/ A1D080511	05/02/11	05/23/11	5	0	5	0	5	0	-	-	1	0	8	0	1	0	8	0	4	0	1	0	8	0	8	0	8	0	1	0	1	0	4	0
B	280-14379-2	05/02/11	05/23/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C	280-14432-1/ IUD1055	05/02/11	05/23/11	4	0	4	0	4	0	-	-	3	0	6	0	3	0	7	0	1	0	3	0	7	0	7	0	3	0	3	0	1	0	1	0
D	280-14437-1	05/02/11	05/23/11	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E	280-14490-1/ H1D130480	05/02/11	05/23/11	-	-	-	-	-	-	6	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
F	280-14530-1/ H1D140421	05/02/11	05/23/11	-	-	-	-	-	-	8	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total																																			
T/PG				9	0	9	0	9	0	15	0	4	0	14	0	4	0	15	0	5	0	4	0	4	0	15	0	15	0	4	0	4	0	5	0

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 11, 2011
LDC Report Date: May 11, 2011
Matrix: Water
Parameters: Dioxins/Dibenzofurans
Validation Level: EPA Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14490-1/H1D120480

Sample Identification

SH-09_041111_01
RD-08_041111_01
RD-11_041111_01
RD-12_041111_01
PZ-149_041111_01
EB_PZ-149_041111

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Routine Calibration (Continuing)

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
1108103-MB	4/18/11	OCDD	36 pg/L	All samples in SDG 280-14490-1/H1D120480

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
SH-09_041111_01	OCDD	100 pg/L	100U pg/L
RD-08_041111_01	OCDD	7.0 pg/L	7.0U pg/L
RD-11_041111_01	OCDD	7.7 pg/L	7.7U pg/L
RD-12_041111_01	OCDD	4.1 pg/L	4.1U pg/L
PZ-149_041111_01	OCDD	27 pg/L	27U pg/L

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
EB_PZ-149_041111	OCDD	3.1 pg/L	3.1U pg/L

Sample EB_PZ-149_041111 and EB_SH-04_040711 (from 280-14402-1/H1D090407) were identified as equipment blanks. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-149_041111	4/11/11	OCDD	3.1 pg/L	PZ-149_041111_01

Sample FB_041411_19 (from SDG 280-14659-1) was identified as a field blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X for other contaminants) than the concentrations found in the associated field blanks.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

Internal standards data were not reviewed for Level V.

X. Target Compound Identifications

Raw data were not reviewed for this SDG.

XI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14490-1/H1D120480	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XII. System Performance

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-14490-1/H1D120480**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14490-1/ H1D120480	SH-09_041111_01 RD-08_041111_01 RD-11_041111_01 RD-12_041111_01 PZ-149_041111_01 EB_PZ-149_041111	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-14490-1/H1D120480**

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-14490-1/ H1D120480	SH-09_041111_01	OCDD	100U pg/L	A	B
280-14490-1/ H1D120480	RD-08_041111_01	OCDD	7.0U pg/L	A	B
280-14490-1/ H1D120480	RD-11_041111_01	OCDD	7.7U pg/L	A	B
280-14490-1/ H1D120480	RD-12_041111_01	OCDD	4.1U pg/L	A	B
280-14490-1/ H1D120480	PZ-149_041111_01	OCDD	27U pg/L	A	B
280-14490-1/ H1D120480	EB_PZ-149_041111	OCDD	3.1U pg/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-14490-1/H1D120480**

No Sample Data Qualified in this SDG

LDC #: 25382E21 **VALIDATION COMPLETENESS WORKSHEET**

SDG #: 280-14490-1/H1D120480

Level V

Laboratory: Test America Inc.

Date: 5/10/11

Page: 1 of 1

Reviewer: JG

2nd Reviewer: [Signature]

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/11/11
II.	HRGC/HRMS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Routine calibration/ICV	N	
V.	Blanks	SW	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	LCs
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	N	
X.	Target compound identifications	N	
XI.	Compound quantitation and CRQLs	N	
XII.	System performance	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	SW	EB = 6 *FB = FB_041411-19 (280-14659-1) EB = EB-SH-04-040711 (280-14402-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

*ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

(1.H1D090407)

Validated Samples:

Water

†	1	SH-09_041111_01	11	1108103-MB	21	31
†	2	RD-08_041111_01	12		22	32
†	3	RD-11_041111_01	13		23	33
†	4	RD-12_041111_01	14		24	34
†	5	PZ-149_041111_01	15		25	35
†	6	EB_PZ-149_041111	16		26	36
	7		17		27	37
	8		18		28	38
	9		19		29	39
	10		20		30	40

Notes: _____

VALIDATION FINDINGS WORKSHEET

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

A. 2,3,7,8-TCDD	F. 1,2,3,4,6,7,8-HpCDD	K. 1,2,3,4,7,8-HxCDF	P. 1,2,3,4,7,8,9-HpCDF	U. Total HpCDD
B. 1,2,3,7,8-PeCDD	G. OCDD	L. 1,2,3,6,7,8-HxCDF	Q. OCDF	V. Total TCDF
C. 1,2,3,4,7,8-HxCDD	H. 2,3,7,8-TCDF	M. 2,3,4,6,7,8-HxCDF	R. Total TCDD	W. Total PeCDF
D. 1,2,3,6,7,8-HxCDD	I. 1,2,3,7,8-PeCDF	N. 1,2,3,7,8,9-HxCDF	S. Total PeCDD	X. Total HxCDF
E. 1,2,3,7,8,9-HxCDD	J. 2,3,4,7,8-PeCDF	O. 1,2,3,4,6,7,8-HpCDF	T. Total HxCDD	Y. Total HpCDF

Notes: _____

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: JVG
2nd Reviewer:

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were all samples associated with a method blank?

Y N N/A Was a method blank performed for each matrix and whenever a sample extraction was performed?

Y N N/A Was the method blank contaminated?

Blank extraction date: 4/18/11 Blank analysis date: 4/21/11 Associated samples: All Code: B

Conc. units: pg/L

Compound	Blank ID	Sample Identification					
		1	2	3	4	5	6
	1108103-MB						
G. OCDD	36	100/U	7.0/U	7.7/U	4.1/U	27/U	3.1/U

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

Y N N/A Were field blanks identified in this SDG?

Blank units: pg/L Associated sample units: pg/L

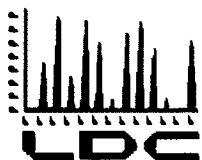
Sampling date: 4/11/11

Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: 5

Compound	Blank ID	Sample Identification				
	6	5				
G. OCDD	3.1	27				
CRQL						

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:

Samples with compound concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 17, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

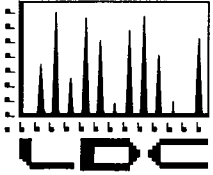
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 2, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25382:

<u>SDG #</u>	<u>Fraction</u>
280-14379-1/IUD0891 280-14432-1/IUD1055	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Pentachlorophenol, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Wet Chemistry, Diesel Range Organics, Ethylene Dibromide, Formaldehyde, Hexachloroethane, Organophosphorus Pesticides, Herbicides, Hydrazines
280-14379-2	N-Nitrosodimethylamine
280-14437-1 280-14490-1/H1D130480 280-14530-1/H1D140421	Dioxins/Dibenzofurans

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008



- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Pei Geng'.

Pei Geng
Project Manager/Senior Chemist

LDC #25382 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane (8260B-S)		1,2,3-TCP (524.2)		SVOA (8270C)		PCP (8270C -LL)		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (OK-DEQ)		EDB (504.1)		Formaldehyde (8315)		Hexachlorophene (8321A)		OPHS Pest. (8141A)		Herbs (8151A)			
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S		
Matrix: Water/Soil																																					
A	280-14379-1 IUD0891	05/02/11	05/23/11	11	0	11	0	11	0	8	0	4	0	4	0	4	0	4	0	4	0	4	0	4	0	4	0	6	0	8	0	4	0	4	0	4	0
B	280-14379-2	05/02/11	05/23/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
C	280-14432-1/ IUD1055	05/02/11	05/23/11	8	0	8	0	8	0	6	0	1	0	6	0	1	0	3	0	3	0	3	0	3	0	4	0	2	0	6	0	1	0	1	0	1	0
Matrix: T/PG																																					
Total	T/PG			19	0	19	0	19	0	14	0	5	0	18	0	5	0	7	0	7	0	7	0	7	0	8	0	8	0	14	0	5	0	5	0	5	0

LDC #25382 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydrazine (DVWC)		Dioxins (8290)		Alk. (2320B)		NH ₃ -N (350.1)		Cl SO ₄ (300.0)		F NO ₃ (300.0)		CN- (9012A)		Cond. (2510B)		CLO ₄ (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)		S= (4500 -S2-D)			
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
Matrix: Water/Soil																																			
A	280-14379-1/ A1D080511	05/02/11	05/23/11	5	0	5	0	5	0	-	-	1	0	8	0	1	0	8	0	4	0	1	0	8	0	8	0	1	0	1	0	1	0	4	0
B	280-14379-2	05/02/11	05/23/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C	280-14432-1/ IUD1055	05/02/11	05/23/11	4	0	4	0	4	0	-	-	3	0	6	0	3	0	7	0	1	0	3	0	7	0	7	0	3	0	3	0	1	0	1	0
D	280-14437-1	05/02/11	05/23/11	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E	280-14490-1/ H1D130480	05/02/11	05/23/11	-	-	-	-	-	-	6	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
F	280-14530-1/ H1D140421	05/02/11	05/23/11	-	-	-	-	-	-	8	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Matrix: T/PG																																			
Total	T/PG			9	0	9	0	9	0	15	0	4	0	14	0	4	0	15	0	5	0	4	0	4	0	15	0	15	0	4	0	4	0	5	0

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 12, 2011
LDC Report Date: May 11, 2011
Matrix: Water
Parameters: Dioxins/Dibenzofurans
Validation Level: EPA Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14530-1/H1D140421

Sample Identification

PZ-141_041211_01
EB_PZ-141_041211
PZ-155_041211_01
EB_PZ-155_041211
HAR-27_041211_01
HAR-28_041211_01
HAR-07_041211_01
HAR-07_041211_36

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Routine Calibration (Continuing)

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
1108103-MB	4/18/11	OCDD	36 pg/L	All samples in SDG 280-14530-1/H1D140421

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
PZ-141_041211_01	OCDD	120 pg/L	120U pg/L
HAR-07_041211_01	OCDD	11 pg/L	11U pg/L
HAR-07_041211_36	OCDD	5.5 pg/L	5.5U pg/L

Samples EB_PZ-141_041211 and EB_PZ-155_041211 were identified as equipment blanks. No polychlorinated dioxin/dibenzofuran contaminants were found in these blanks.

Sample FB_041411_19 (from SDG 280-14659-1) was identified as a field blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

Internal standards data were not reviewed for Level V.

X. Target Compound Identifications

Raw data were not reviewed for this SDG.

XI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14530-1/H1D140421	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XII. System Performance

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

Samples HAR-07_041211_01 and HAR-07_041211_36 were identified as field duplicates. No polychlorinated dioxins/dibenzofurans were detected in any of the samples with the following exceptions:

Compound	Concentration (pg/L)		RPD (Limits)	Flag	A or P
	HAR-07_041211_01	HAR-07_041211_36			
OCDD	11	5.5	67 (≤35)	NQ	-
OCDF	6.8	6.2	9 (≤35)	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-14530-1/H1D140421**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14530-1/ H1D140421	PZ-141_041211_01 EB_PZ-141_041211 PZ-155_041211_01 EB_PZ-155_041211 HAR-27_041211_01 HAR-28_041211_01 HAR-07_041211_01 HAR-07_041211_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-14530-1/H1D140421**

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-14530-1/ H1D140421	PZ-141_041211_01	OCDD	120U pg/L	A	B
280-14530-1/ H1D140421	HAR-07_041211_01	OCDD	11U pg/L	A	B
280-14530-1/ H1D140421	HAR-07_041211_36	OCDD	5.5U pg/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-14530-1/H1D140421**

No Sample Data Qualified in this SDG

LDC #: 25382F21

VALIDATION COMPLETENESS WORKSHEET

Date: 5/10/11

SDG #: 280-14530-1/H1D140421

Level V

Page: 1 of 1

Laboratory: Test America Inc.

Reviewer: *[Signature]*

2nd Reviewer: *[Signature]*

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/12/11
II.	HRGC/HRMS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Routine calibration/ICV	N	
V.	Blanks	SW	
VI.	Matrix spike/Matrix spike duplicates	N	Host client Spec
VII.	Laboratory control samples	A	LCS
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	N	
X.	Target compound identifications	N	
XI.	Compound quantitation and CRQLs	N	
XII.	System performance	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	SW	D = 7, 8
XV.	Field blanks	ND	EB = 2, 4 FB-041411-19 (280-14657-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: *Water*

1	PZ-141_041211_01	11	1108103 - MB	21	31
2	EB_PZ-141_041211	12		22	32
3	PZ-155_041211_01	13		23	33
4	EB_PZ-155_041211	14		24	34
5	HAR-27_041211_01	15		25	35
6	HAR-28_041211_01	16		26	36
7	HAR-07_041211_01	17	D	27	37
8	HAR-07_041211_36	18	D	28	38
9		19		29	39
10		20		30	40

Notes: _____

VALIDATION FINDINGS WORKSHEET

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

A. 2,3,7,8-TCDD	F. 1,2,3,4,6,7,8-HpCDD	K. 1,2,3,4,7,8-HxCDF	P. 1,2,3,4,7,8,9-HpCDF	U. Total HpCDD
B. 1,2,3,7,8-PeCDD	G. OCDD	L. 1,2,3,6,7,8-HxCDF	Q. OCDF	V. Total TCDF
C. 1,2,3,4,7,8-HxCDD	H. 2,3,7,8-TCDF	M. 2,3,4,6,7,8-HxCDF	R. Total TCDD	W. Total PeCDF
D. 1,2,3,6,7,8-HxCDD	I. 1,2,3,7,8-PeCDF	N. 1,2,3,7,8,9-HxCDF	S. Total PeCDD	X. Total HxCDF
E. 1,2,3,7,8,9-HxCDD	J. 2,3,4,7,8-PeCDF	O. 1,2,3,4,6,7,8-HpCDF	T. Total HxCDD	Y. Total HpCDF

Notes:

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: JVG
2nd Reviewer:

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were all samples associated with a method blank?

Y N N/A Was a method blank performed for each matrix and whenever a sample extraction was performed?

Y N N/A Was the method blank contaminated?

Blank extraction date: 4/18//11 Blank analysis date: 4/21/11 Associated samples: All Code:B

Conc. units: pg/L

Compound	Blank ID	Sample Identification					
		1	7	8			
	1108103-MB						
G. OCDD	36	120/U	11/U	5.5/U			

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

LDC#: 25382F21

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: AVC
2nd Reviewer: AVC

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

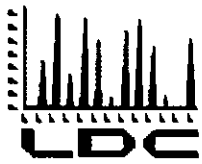
Y N NA
N NA

Were field duplicate pairs identified in this SDG?

Were target analytes detected in the field duplicate pairs?

Compound	Concentration (p/L)		%RPD (≤ 35)	Qualifications (Parent Only)
	7	8		
G	11	5.5	67	NQ(<5XRL)
Q	6.8	6.2	9	

V:\FIELD DUPLICATES\25382F21.wpd



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 16, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

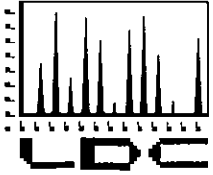
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 03, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25398:

<u>SDG #</u>	<u>Fraction</u>
280-14432-2, 280-14484-2 280-14519-2,, 280-14655-2	N-Nitrosodimethylamine
280-14572-1/H1D150456 280-14659-1/H1D160418 280-14710-1/H1D190467	Dioxins/Dibenzofurans

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007



Please feel free to contact us if you have any questions.

Sincerely,

A handwritten signature in black ink that reads 'Pei Geng' in a cursive style.

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV LDC #25398 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	NDMA (1625)		Dioxins (8290)		W		S		W		S		W		S		W		S		
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	
Matrix: Water/Soil																								
A	280-14432-2	05/03/11	05/24/11	6	0	-	-																	
B	280-14484-2	05/03/11	05/24/11	2	0	-	-																	
C	280-14519-2	05/03/11	05/24/11	3	0	-	-																	
D	280-14572-1/ H1D150456	05/03/11	05/24/11	-	-	8	0																	
E	280-14655-2	05/03/11	05/24/11	2	0	-	-																	
F	280-14659-1/ H1D160418	05/03/11	05/24/11	-	-	5	0																	
G	280-14710-1/ H1D190467	05/03/11	05/24/11	-	-	4	0																	
				13	0	17	0																	
Total				T/PG																				30

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 8, 2011
LDC Report Date: May 13, 2011
Matrix: Water
Parameters: N-Nitrosodimethylamine
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14432-2

Sample Identification

SH-02_040811_36
EB_SH-02_040811
FB_SH-02_040811_19
SH-03_040811_36
EB_SH-03_040811
FB_SH-03_040811_19

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

Samples EB_SH-04_040711 (from SDG 280-14379-1) and EB_SH-02_040811 and EB_SH-03_040811 were identified as equipment blanks. No N-Nitrosodimethylamine was found in these blanks.

Samples FB_041411_19 (from SDG 280-14432-1) and FB_SH-02_040811_19 and FB_SH-03_040811_19 were identified as field blanks. No N-Nitrosodimethylamine was found in these blanks.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14432-2	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples SH-02_040811_36 and SH-02_040811_01 (from SDG 280-14432-1) and SH-03_040811_36 and SH-03_040811_01 (from SDG 280-14432-1) were identified as field duplicates. No N-Nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	SH-02_040811_01	SH-02_040811_36			
N-Nitrosodimethylamine	0.049	0.052	6 (≤35)	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	SH-03_040811_01	SH-03_040811_36			
N-Nitrosodimethylamine	0.030	0.066	75 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-14432-2**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14432-2	SH-02_040811_36 EB_SH-02_040811 FB_SH-02_040811_19 SH-03_040811_36 EB_SH-03_040811 FB_SH-03_040811_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG 280-14432-2**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-14432-2**

No Sample Data Qualified in this SDG

LDC #: 25398A2b
 SDG #: 280-14432-2
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/10/11
 Page: 1 of 1
 Reviewer: SV6
 2nd Reviewer: [Signature]

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/08/11</u>
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS / D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	D ₁ = 1 + SH-02-040811-01
XVI.	Field duplicates	SW	D ₂ = 2 + SH-03-040811-01 > 280-14432-1
XVII.	Field blanks	ND	EB = 2, 5 FB = 3, 6, FB-041411-19 (280-14432-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

EB = EB-SH-04-040711 (280-14379-1)
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

+	1	SH-02_040811_36	11	MB 280-61924 / 1-A	21		31
-	2	EB SH-02_040811	12		22		32
-	3	FB SH-02_040811_19	13		23		33
+	4	SH-03_040811_36	14		24		34
-	5	EB SH-03_040811	15		25		35
-	6	FB SH-03_040811_19	16		26		36
	7		17		27		37
	8		18		28		38
	9		19		29		39
	10		20		30		40

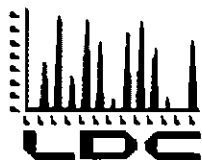
VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GC MS NDMA (EPA Method 1625)_M

Y ~~N~~ ~~NA~~ Were field duplicate pairs identified in this SDG?
~~Y~~ N ~~NA~~ Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent Only)
	SH-02_040811_01	SH-02_040811_36		
NDMA	0.049	0.052	6	

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent Only)
	SH-03_040811_01	SH-03_040811_36		
NDMA	0.030	0.066	75	NQ(<5XRL)



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 16, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

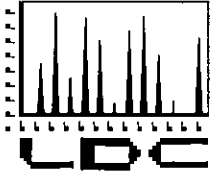
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 03, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25398:

<u>SDG #</u>	<u>Fraction</u>
280-14432-2, 280-14484-2 280-14519-2,, 280-14655-2	N-Nitrosodimethylamine
280-14572-1/H1D150456 280-14659-1/H1D160418 280-14710-1/H1D190467	Dioxins/Dibenzofurans

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007



Please feel free to contact us if you have any questions.

Sincerely,

A handwritten signature in black ink that reads 'Pei Geng'.

Pei Geng
Project Manager/Senior Chemist

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 11, 2011

LDC Report Date: May 13, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14484-2

Sample Identification

SH-09_041111_36

FB_SH-09_041111_19

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No N-Nitrosodimethylamine was found in this blank.

Samples FB_041411_19 (from SDG 280-14484-1) and FB_SH-09_041111_19 were identified as field blanks. No N-Nitrosodimethylamine was found in these blanks.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14484-2	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples SH-09_041111_36 and SH-09_041111_01 (from SDG 280-14484-1) were identified as field duplicates. No N-Nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	SH-09_041111_01	SH-09_041111_36			
N-Nitrosodimethylamine	0.010	0.0084	17 (≤35)	-	-

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-14484-2**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14484-2	SH-09_041111_36 FB_SH-09_041111_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG 280-14484-2**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-14484-2**

No Sample Data Qualified in this SDG

LDC #: 25398B2b
 SDG #: 280-14484-2
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/10/11
 Page: 1 of 1
 Reviewer: JVG
 2nd Reviewer: [Signature]

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/11/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS 1b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D = 1, SH-09-041111-01 (from 280-14484-1)
XVII.	Field blanks	ND	FB = 2, FB-041111-19 (from 280-14432-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: water

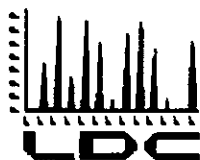
1	SH-09 041111_36	11	MB 280-61924/1-A	21		31
2	FB_SH-09_041111_19	12		22		32
3		13		23		33
4		14		24		34
5		15		25		35
6		16		26		36
7		17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GC MS NDMA (EPA Method 1625)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent Only)
	SH-09_041111_01	SH-09_041111_36		
NDMA	0.010	0.0084	17	



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 16, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

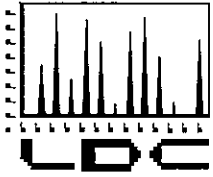
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 03, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25398:

<u>SDG #</u>	<u>Fraction</u>
280-14432-2, 280-14484-2 280-14519-2,, 280-14655-2	N-Nitrosodimethylamine
280-14572-1/H1D150456 280-14659-1/H1D160418 280-14710-1/H1D190467	Dioxins/Dibenzofurans

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007



Please feel free to contact us if you have any questions.

Sincerely,

A handwritten signature in black ink that reads 'Pei Geng'.

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV LDC #25398 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	NDMA (1625)		Dioxins (8290)		W		S		W		S		W		S		W		S		W		S		W		S						
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S					
Matrix: Water/Soil																																				
A	280-14432-2	05/03/11	05/24/11	6	0	-	-																													
B	280-14484-2	05/03/11	05/24/11	2	0	-	-																													
C	280-14519-2	05/03/11	05/24/11	3	0	-	-																													
D	280-14572-1/ H1D150456	05/03/11	05/24/11	-	-	8	0																													
E	280-14655-2	05/03/11	05/24/11	2	0	-	-																													
F	280-14659-1/ H1D160418	05/03/11	05/24/11	-	-	5	0																													
G	280-14710-1/ H1D190467	05/03/11	05/24/11	-	-	4	0																													
				13	0	17	0																													
Total	T/PG			13	0	17	0																													30

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 12, 2011
LDC Report Date: May 11, 2011
Matrix: Water
Parameters: N-Nitrosodimethylamine
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14519-2

Sample Identification

HAR-28_041211_36
FB_HAR-28_041211_19
FB_HAR-07_041211_19

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

Samples FB_HAR-28_041211_19 and FB_HAR-07_041211_19 were identified as field blanks. No N-Nitrosodimethylamine was found in these blanks.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14519-2	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-28_041211_36 and HAR-28_041211_01 (from SDG (280-14519-1)) were identified as field duplicates. No N-Nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-28_041211_01	HAR-28_041211_36			
N-Nitrosodimethylamine	0.010	0.011	10 (≤35)	-	-

**Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-14519-2**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14519-2	HAR-28_041211_36 FB_HAR-28_041211_19 FB_HAR-07_041211_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG 280-14519-2**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-14519-2**

No Sample Data Qualified in this SDG

LDC #: 25398C2b
 SDG #: 280-14519-2
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/10/11
 Page: 1 of 1
 Reviewer: JVG
 2nd Reviewer: [Signature]

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625) *M*

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/12/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS 1b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D = 1, HAR-28-041211-01 (280-14519-1)
XVII.	Field blanks	ND	FB = 2, 3

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: *Water*

1 ⁺	HAR-28_041211_36	11	MB 280-62331/A-A	21		31
2 ⁻	FB HAR-28_041211_19	12		22		32
3 ⁻	FB HAR-07_041211_19	13		23		33
4		14		24		34
5		15		25		35
6		16		26		36
7		17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GC MS NDMA (EPA Method 1625)

- Y ~~N~~ ~~NA~~ Were field duplicate pairs identified in this SDG?
- Y ~~N~~ ~~NA~~ Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent Only)
	HAR-28_041411_01	HAR-28_041411_36		
NDMA	0.010	0.011	10	



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 16, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

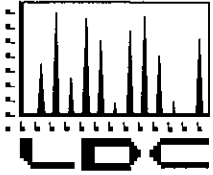
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 03, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25398:

<u>SDG #</u>	<u>Fraction</u>
280-14432-2, 280-14484-2 280-14519-2,, 280-14655-2	N-Nitrosodimethylamine
280-14572-1/H1D150456 280-14659-1/H1D160418 280-14710-1/H1D190467	Dioxins/Dibenzofurans

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007



Please feel free to contact us if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Pei Geng' in a cursive style.

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV LDC #25398 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	NDMA (1625)		Dioxins (8290)		W		S		W		S		W		S		W		S	
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
Matrix: Water/Soil																							
A	280-14432-2	05/03/11	05/24/11	6	0	-	-																
B	280-14484-2	05/03/11	05/24/11	2	0	-	-																
C	280-14519-2	05/03/11	05/24/11	3	0	-	-																
D	280-14572-1/ H1D150456	05/03/11	05/24/11	-	-	8	0																
E	280-14655-2	05/03/11	05/24/11	2	0	-	-																
F	280-14659-1/ H1D160418	05/03/11	05/24/11	-	-	5	0																
G	280-14710-1/ H1D190467	05/03/11	05/24/11	-	-	4	0																
Total				13	0	17	0																30

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MIS/MSD, and DUPs

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 13, 2011
LDC Report Date: May 11, 2011
Matrix: Water
Parameters: Dioxins/Dibenzofurans
Validation Level: EPA Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14572-1/H1D150456

Sample Identification

PZ-144_041311_01
PZ-144_041311_36
EB_PZ-144_041311
PZ-159_041311_01
EB_PZ-159_041311
RS-29_041311_01
RS-08_041311_01
HAR-21_041311_01

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

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- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Routine Calibration (Continuing)

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
1109204-MB	4/19/11	1,2,3,4,6,7,8-HpCDD OCDD 1,2,3,6,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF OCDF	3.1 pg/L 24 pg/L 0.97 pg/L 1.8 pg/L 16 pg/L	All samples in SDG 280-14572-1/H1D150456

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
PZ-144_041311_01	OCDD 1,2,3,4,6,7,8-HpCDF OCDF	7.3 pg/L 1.1 pg/L 4.3 pg/L	7.3U pg/L 1.1U pg/L 4.3U pg/L
PZ-144_041311_36	OCDD	4.9 pg/L	4.9U pg/L
PZ-159_041311_01	OCDD	4.1 pg/L	4.1U pg/L

Samples EB_PZ-144_041311 and EB_PZ-159_041311 were identified as equipment blanks. No polychlorinated dioxin/dibenzofuran contaminants were found in these blanks.

Sample FB_041411_19 (from SDG 280-14659-1) was identified as a field blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

Internal standards data were not reviewed for Level V.

X. Target Compound Identifications

Raw data were not reviewed for this SDG.

XI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14572-1/H1D150456	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XII. System Performance

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

Samples PZ-144_041311_01 and PZ-144_041311_36 were identified as field duplicates. No polychlorinated dioxins/dibenzofurans were detected in any of the samples with the following exceptions:

Compound	Concentration (pg/L)		RPD (Limits)	Flag	A or P
	PZ-144_041311_01	PZ-144_041311_36			
OCDD	7.3	4.9	39 (≤35)	NQ	-
1,2,3,4,6,7,8-HpCDF	1.1	0.97U	13 (≤35)	-	-
1,2,3,4,7,8,9-HpCDF	1.9	1.4U	30 (≤35)	-	-
OCDF	4.3	2.8U	42 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-14572-1/H1D150456**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14572-1/ H1D150456	PZ-144_041311_01 PZ-144_041311_36 EB_PZ-144_041311 PZ-159_041311_01 EB_PZ-159_041311 RS-29_041311_01 RS-08_041311_01 HAR-21_041311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-14572-1/H1D150456**

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-14572-1/ H1D150456	PZ-144_041311_01	OCDD 1,2,3,4,6,7,8-HpCDF OCDF	7.3U pg/L 1.1U pg/L 4.3U pg/L	A	B
280-14572-1/ H1D150456	PZ-144_041311_36	OCDD	4.9U pg/L	A	B
280-14572-1/ H1D150456	PZ-159_041311_01	OCDD	4.1U pg/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-14572-1/H1D150456**

No Sample Data Qualified in this SDG

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/13/11
II.	HRGC/HRMS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Routine calibration/ICV	N	
V.	Blanks	SW	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	A	LCS
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	N	
X.	Target compound identifications	N	
XI.	Compound quantitation and CRQLs	N	
XII.	System performance	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	SW	D = 1, 2
XV.	Field blanks	ND	EB = 3, 5 FB = FB-041411-19

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinstate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

(280-14659-1)

Validated Samples: water

+	1	PZ-144_041311_01	D	11	21	31
+	2	PZ-144_041311_36	D	12	22	32
-	3	EB_PZ-144_041311		13	23	33
+	4	PZ-159_041311_01		14	24	34
-	5	EB_PZ-159_041311		15	25	35
-	6	RS-29_041311_01		16	26	36
-	7	RS-08_041311_01		17	27	37
-	8	HAR-21_041311_01		18	28	38
	9			19	29	39
	10			20	30	40

Notes: _____

VALIDATION FINDINGS WORKSHEET

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

A. 2,3,7,8-TCDD	F. 1,2,3,4,6,7,8-HpCDD	K. 1,2,3,4,7,8-HxCDF	P. 1,2,3,4,7,8,9-HpCDF	U. Total HpCDD
B. 1,2,3,7,8-PeCDD	G. OCDD	L. 1,2,3,6,7,8-HxCDF	Q. OCDF	V. Total TCDF
C. 1,2,3,4,7,8-HxCDD	H. 2,3,7,8-TCDF	M. 2,3,4,6,7,8-HxCDF	R. Total TCDD	W. Total PeCDD
D. 1,2,3,6,7,8-HxCDD	I. 1,2,3,7,8-PeCDF	N. 1,2,3,7,8,9-HxCDF	S. Total PeCDD	X. Total HxCDF
E. 1,2,3,7,8,9-HxCDD	J. 2,3,4,7,8-PeCDF	O. 1,2,3,4,6,7,8-HpCDF	T. Total HxCDD	Y. Total HpCDF

Notes: _____

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: JVG
2nd Reviewer: [Signature]

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- Y / N / N/A Were all samples associated with a method blank?
- Y / N / N/A Was a method blank performed for each matrix and whenever a sample extraction was performed?
- Y / N / N/A Was the method blank contaminated?

Blank extraction date: 4/19/11 Blank analysis date: 4/25/11 Associated samples: All Code: B

Conc. units: pg/L

Compound	Blank ID	Sample Identification					
		1	2	4			
	1109204-MB						
F. 1,2,3,4,6,7,8-HpCDD	3.1						
G. OCDD	24	7.3/U	4.9/U	4.1/U			
L. 1,2,3,6,7,8-HxCDF	0.97						
O. 1,2,3,4,6,7,8-HpCDF	1.8	1.1/U					
Q. OCDF	16	4.3/U					

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

LDC#: 25398D21

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: JYC
2nd Reviewer: _____

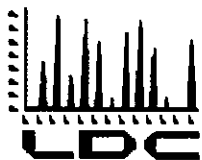
METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (p/L)		%RPD (≤ 35)	Qualifications (Parent Only)
	1	2		
G	7.3	4.9	39	NQ(<5XRL)
O	1.1	0.97U	13	
P	1.9	1.4U	30	
Q	4.3	2.8U	42	NQ(<5XRL)

* EMPC

V:\FIELD DUPLICATES\25398D21.wpd



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 16, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

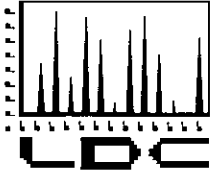
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 03, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25398:

<u>SDG #</u>	<u>Fraction</u>
280-14432-2, 280-14484-2 280-14519-2,, 280-14655-2	N-Nitrosodimethylamine
280-14572-1/H1D150456 280-14659-1/H1D160418 280-14710-1/H1D190467	Dioxins/Dibenzofurans

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007



Please feel free to contact us if you have any questions.

Sincerely,

A handwritten signature in black ink that reads 'Pei Geng'.

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV LDC #25398 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	NDMA (1625)			Dioxins (8290)			W		S		W		S		W		S		W		S		W		S	
				W	S	0	W	S	0	W	S	0	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W
Matrix: Water/Soil																													
A	280-14432-2	05/03/11	05/24/11	6	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B	280-14484-2	05/03/11	05/24/11	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C	280-14519-2	05/03/11	05/24/11	3	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D	280-14572-1/ H1D150456	05/03/11	05/24/11	-	-	8	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
E	280-14655-2	05/03/11	05/24/11	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
F	280-14659-1/ H1D160418	05/03/11	05/24/11	-	-	5	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G	280-14710-1/ H1D190467	05/03/11	05/24/11	-	-	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total				13	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 14, 2011

LDC Report Date: May 13, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14655-2

Sample Identification

HAR-09_041411_36

FB_HAR-09_041411_19

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

Sample FB_HAR-09_041411_19 was identified as a field blank. No N-Nitrosodimethylamine was found in this blank.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14655-2	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-09_041411_36 and HAR-09_041411_01 (from SDG (280-14655-1) were identified as field duplicates. No N-Nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-09_041411_01	HAR-09_041411_36			
N-Nitrosodimethylamine	0.0050	0.0050U	0 (≤35)	-	-

Boeing SSFL GW 2nd Qtr, 2011

N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-14655-2

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14379-2	HAR-09_041411_36 FB_HAR-09_041411_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011

N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary – SDG 280-14655-2

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011

N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-14655-2

No Sample Data Qualified in this SDG

LDC #: 25398E2b
 SDG #: 280-14655-2
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/10/11
 Page: 1 of 1
 Reviewer: MB
 2nd Reviewer: [Signature]

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/14/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS 10
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D = 1 + HAR-09-041411-01 (280-14655-1)
XVII.	Field blanks	ND	FB = 2

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: Water

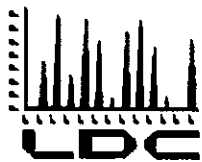
1	HAR-09_041411_36	11	MB 280-62839/1-A	21	31
2	FB HAR-09_041411_19	12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GC MS NDMA (EPA Method 1625)

- Y/N NA Were field duplicate pairs identified in this SDG?
- Y/N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		RPD	Qualifications (Parent Only)
	HAR-09_041411_01	HAR-09_041411_36		
NDMA	0.0050	0.0050U	0	



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 16, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 03, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25398:

SDG

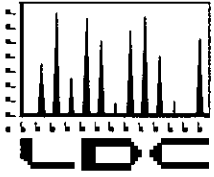
Fraction

280-14432-2, 280-14484-2 N-Nitrosodimethylamine
280-14519-2,, 280-14655-2

280-14572-1/H1D150456 Dioxins/Dibenzofurans
280-14659-1/H1D160418
280-14710-1/H1D190467

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007



Please feel free to contact us if you have any questions.

Sincerely,

A handwritten signature in black ink that reads 'Pei Geng'.

Pei Geng
Project Manager/Senior Chemist

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 14, 2011
LDC Report Date: May 11, 2011
Matrix: Water
Parameters: Dioxins/Dibenzofurans
Validation Level: EPA Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14659-1/H1D160418

Sample Identification

HAR-15_041411_01
HAR-09_041411_01
HAR-11_041411_01
HAR-20_041411_01
FB_041411_19

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Routine Calibration (Continuing)

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
1109204-MB	4/19/11	1,2,3,4,6,7,8-HpCDD OCDD 1,2,3,6,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF OCDF	3.1 pg/L 24 pg/L 0.97 pg/L 1.8 pg/L 16 pg/L	All samples in SDG 280-14659-1/H1D160418

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

Sample FB_041411_19 was identified as a field blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

Internal standards data were not reviewed for Level V.

X. Target Compound Identifications

Raw data were not reviewed for this SDG.

XI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14659-1/H1D160418	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XII. System Performance

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-14659-1/H1D160418**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14659-1/ H1D160418	HAR-15_041411_01 HAR-09_041411_01 HAR-11_041411_01 HAR-20_041411_01 FB_041411_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-14659-1/H1D160418**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-14659-1/H1D160418**

No Sample Data Qualified in this SDG

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/14/11
II.	HRGC/HRMS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Routine calibration/ICV	N	
V.	Blanks	SW	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	LCS
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	N	
X.	Target compound identifications	N	
XI.	Compound quantitation and CRQLs	N	
XII.	System performance	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	MD	FB = 5

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

1	HAR-15_041411_01	11	1109204-MB	21	31
2	HAR-09_041411_01	12		22	32
3	HAR-11_041411_01	13		23	33
4	HAR-20_041411_01	14		24	34
5	FB_041411_19	15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

VALIDATION FINDINGS WORKSHEET

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

A. 2,3,7,8-TCDD	F. 1,2,3,4,6,7,8-HpCDD	K. 1,2,3,4,7,8-HxCDF	P. 1,2,3,4,7,8,9-HpCDF	U. Total HpCDD
B. 1,2,3,7,8-PeCDD	G. OCDD	L. 1,2,3,6,7,8-HxCDF	Q. OCDF	V. Total TCDF
C. 1,2,3,4,7,8-HxCDD	H. 2,3,7,8-TCDF	M. 2,3,4,6,7,8-HxCDF	R. Total TCDD	W. Total PeCDF
D. 1,2,3,6,7,8-HxCDD	I. 1,2,3,7,8-PeCDF	N. 1,2,3,7,8,9-HxCDF	S. Total PeCDD	X. Total HxCDF
E. 1,2,3,7,8,9-HxCDD	J. 2,3,4,7,8-PeCDF	O. 1,2,3,4,6,7,8-HpCDF	T. Total HxCDD	Y. Total HpCDF

Notes:

VALIDATION FINDINGS WORKSHEET

Blanks

Reviewer: JVG
2nd Reviewer: [Signature]

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y/N N/A Were all samples associated with a method blank?

Y/N N/A Was a method blank performed for each matrix and whenever a sample extraction was performed?

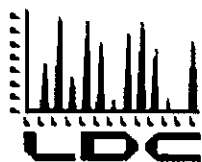
Y/N N/A Was the method blank contaminated?

Blank extraction date: 4/19/11 Blank analysis date: 4/25/11 Associated samples: All ND

Conc. units: pg/L

Compound	Blank ID	Sample Identification					
	1109204-MB						
F. 1,2,3,4,6,7,8-HpCDD	3.1						
G. OCDD	24						
L. 1,2,3,6,7,8-HxCDF	0.97						
O. 1,2,3,4,6,7,8-HpCDF	1.8						
Q. OCDF	16						

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 16, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

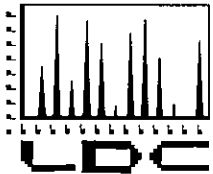
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 03, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25398:

<u>SDG #</u>	<u>Fraction</u>
280-14432-2, 280-14484-2 280-14519-2,, 280-14655-2	N-Nitrosodimethylamine
280-14572-1/H1D150456 280-14659-1/H1D160418 280-14710-1/H1D190467	Dioxins/Dibenzofurans

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007



Please feel free to contact us if you have any questions.

Sincerely,

A handwritten signature in black ink that reads 'Pei Geng' in a cursive style.

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV LDC #25398 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	NDMA (1625)		Dioxins (8290)		W		S		W		S		W		S		W		S		W		S		W		S		W		S		
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	
Matrix: Water/Soil																																				
A	280-14432-2	05/03/11	05/24/11	6	0	-	-																													
B	280-14484-2	05/03/11	05/24/11	2	0	-	-																													
C	280-14519-2	05/03/11	05/24/11	3	0	-	-																													
D	280-14572-1/ H1D150456	05/03/11	05/24/11	-	-	8	0																													
E	280-14655-2	05/03/11	05/24/11	2	0	-	-																													
F	280-14659-1/ H1D160418	05/03/11	05/24/11	-	-	5	0																													
G	280-14710-1/ H1D190467	05/03/11	05/24/11	-	-	4	0																													
Total	T/PG			13	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 15, 2011
LDC Report Date: May 11, 2011
Matrix: Water
Parameters: Dioxins/Dibenzofurans
Validation Level: EPA Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14710-1/H1D190467

Sample Identification

HAR-19_041511_01
RD-49C_041511_01
HAR-14_041511_01
HAR-12_041511_01
HAR-19_041511_01MS
HAR-19_041511_01MSD

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Routine Calibration (Continuing)

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
1109204-MB	4/19/11	1,2,3,4,6,7,8-HpCDD OCDD 1,2,3,6,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF OCDF	3.1 pg/L 24 pg/L 0.97 pg/L 1.8 pg/L 16 pg/L	All samples in SDG 280-14710-1/H1D190467

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

No field blanks were identified in this SDG.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

Internal standards data were not reviewed for Level V.

X. Target Compound Identifications

Raw data were not reviewed for this SDG.

XI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14710-1/H1D190467	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XII. System Performance

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-14710-1/H1D190467**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14710-1/ H1D190467	HAR-19_041511_01 RD-49C_041511_01 HAR-14_041511_01 HAR-12_041511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-14710-1/H1D190467**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-14710-1/H1D190467**

No Sample Data Qualified in this SDG

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/15/11
II.	HRGC/HRMS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Routine calibration/ICV	N	
V.	Blanks	SW	
VI.	Matrix spike/Matrix spike duplicates	A	
VII.	Laboratory control samples	A	LCS
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	N	
X.	Target compound identifications	N	
XI.	Compound quantitation and CRQLs	N	
XII.	System performance	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: *Water*

1	HAR-19_041511_01	11	21	31
2	RD-49C_041511_01	12	22	32
3	HAR-14_041511_01	13	23	33
4	HAR-12_041511_01	14	24	34
5	HAR-19_041511_01MS	15	25	35
6	HAR-19_041511_01MSD	16	26	36
7		17	27	37
8		18	28	38
9		19	29	39
10		20	30	40

Notes: _____

VALIDATION FINDINGS WORKSHEET

Blanks

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were all samples associated with a method blank?

Y N N/A Was a method blank performed for each matrix and whenever a sample extraction was performed?

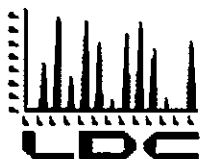
Y N N/A Was the method blank contaminated?

Blank extraction date: 4/19/11 Blank analysis date: 4/25/11 Associated samples: All ND

Conc. units: pg/L

Table with 3 main columns: Compound, Blank ID, and Sample Identification. It lists various dioxin and furan compounds (F, G, L, O, Q) with their respective blank concentrations and a grid for sample results.

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT: All contaminants within five times the method blank concentration were qualified as not detected, "U".



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

July 28, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed is the revised data validation report for the fraction listed below. Please replace the previously submitted report with the enclosed revised report.

LDC Project # 25398:

SDG #

Fraction

280-14432-2

N-Nitrosodimethylamine

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 8, 2011
LDC Report Date: July 27, 2011
Matrix: Water
Parameters: N-Nitrosodimethylamine
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14432-2

Sample Identification

SH-02_040811_36
EB_SH-02_040811
FB_SH-02_040811_19
SH-03_040811_36
EB_SH-03_040811
FB_SH-03_040811_19

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

Samples EB_SH-04_040711 (from SDG 280-14379-1) and EB_SH-02_040811 and EB_SH-03_040811 were identified as equipment blanks. No N-Nitrosodimethylamine was found in these blanks.

Samples FB_041411_19 (from SDG 280-14432-1) and FB_SH-02_040811_19 and FB_SH-03_040811_19 were identified as field blanks. No N-Nitrosodimethylamine was found in these blanks.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14432-2	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

***XVI. Field Duplicates**

Samples SH-02_040811_36 and SH-02_040811_01 (from SDG 280-14432-1) and SH-03_040811_36 and SH-03_040811_01 (from SDG 280-14432-1) were identified as field duplicates. No N-Nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	SH-02_040811_01	SH-02_040811_36			
N-Nitrosodimethylamine	0.049	0.052	6 (≤35)	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	SH-03_040811_01	SH-03_040811_36			
N-Nitrosodimethylamine	0.030	0.066	75 (≤35)	J (all detects)	A

*Added qualification flag to table above.

Boeing SSFL GW 2nd Qtr, 2011**N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-14432-2**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14432-2	SH-02_040811_36 EB_SH-02_040811 FB_SH-02_040811_19 SH-03_040811_36 EB_SH-03_040811 FB_SH-03_040811_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)
280-14432-2	SH-03_040811_36	N-Nitrosodimethylamine	J (all detects)	A	Field duplicates (RPD) (*XVI)

Boeing SSFL GW 2nd Qtr, 2011**N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG 280-14432-2**

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011**N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-14432-2**

No Sample Data Qualified in this SDG

LDC #: 25398A2b
 SDG #: 280-14432-2
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/10/11
 Page: 1 of 1
 Reviewer: JVL
 2nd Reviewer: [Signature]

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/10/11</u>
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS / D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	D ₁ = 1 + SH-02-040811-01
XVI.	Field duplicates	SW	D ₂ = 1 + SH-03-040811-01 > 280-14432-1
XVII.	Field blanks	ND	EB = 2, 5 FB = 3, 6, FB-041411-19 (280-14432-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinstate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	SH-02_040811_36	11	MB 280-61924 / 1-A	21		31
2	EB_SH-02_040811	12		22		32
3	FB_SH-02_040811_19	13		23		33
4	SH-03_040811_36	14		24		34
5	EB_SH-03_040811	15		25		35
6	FB_SH-03_040811_19	16		26		36
7		17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GC MS NDMA (EPA Method 1625)_M

Y N N A Were field duplicate pairs identified in this SDG?
Y N N A Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent Only)
	SH-02_040811_01	SH-02_040811_36		
NDMA	0.049	0.052	6	

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent Only)
	SH-03_040811_01	SH-03_040811_36		
NDMA	0.030	0.066	75	Just LA (* X VI) NDMA



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 18, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

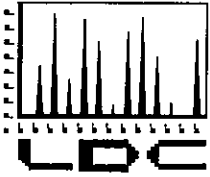
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 04, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25402:

<u>SDG #</u>	<u>Fraction</u>
280-14571/IUD1615/ A1D140430	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Polynuclear Aromatic Hydrocarbons, Pentachlorophenol, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane, Organophosphorus Pesticides, Hexachlorophene, Formaldehyde, Hydrazine
280-14571-2	N-Nitrosodimethylamine

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review, September 2005



- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

LDC #25402 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane 8260-S		1,2,3-TCP (524.2)		SVOA (8270C)		PAHs (8270C -SIM)		PCP (8270C -LL)		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (OK-DEQ)		EDB (504.1)		Formaldehyde (8315)		Hexachloro-rophene (8321A)		OPHS Pest. (8141A)		Herbs (8151A)			
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S		
Matrix: Water/Soil																																							
A	280-14571/IUD1615	05/04/11	05/25/11	15	0	12	0	5	0	11	0	6	0	2	0	9	0	2	0	6	0	2	0	8	0	11	0	2	0	9	0	2	0	2	0	2	0		
B	280-14571-2	05/04/11	05/25/11	-	-	-	-	-	-	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Total																																							
T/PG																																							

LDC #25402 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydra-zine (DVWC)		NH ₃ -N (350.1)		Cl SO ₄ (300.0)		Br NO ₂ O-PO ₄		F NO ₃ (300.0)		Cr(VI) (7196A)		Diss. Cr(VI) (7196A)		CN- (9012A)		CLO ₄ (314.0)		pH (9040B)		S= (4500 -S2-D)											
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S								
Matrix: Water/Soil																																							
A	280-14571/A1D140430	05/04/11	05/25/11	5	0	3	0	5	0	5	0	4	0	4	0	9	0	4	0	4	0	2	0	5	0	5	0	2	0	2	0	2	0	2	0				
Total																																							
T/PG																																							

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 13, 2011

LDC Report Date: May 13, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14571-2

Sample Identification

RD-51B_041311_36
FB_RD-51B_041311_19
HAR-21_041311_36
FB_HAR-21_041311_19

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-nitrosodimethylamine was found in the method blanks.

Samples FB_RD-51B_041311_19 and FB_HAR-21_041311_19 were identified as field blanks. No N-nitrosodimethylamine was found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14571-2	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RD-51B_041311_36 and RD-51B_041311_01 (from SDG 280-14571-1) and samples HAR-21_041311_36 and HAR-21_041311_01 (from SDG 280-14571-1) were identified as field duplicates. No N-nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	RD-51B_041311_36	RD-51B_041311_01			
N-nitrosodimethylamine	0.0050U	0.0063	23 (≤35)	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-21_041311_36	HAR-21_041311_01			
N-nitrosodimethylamine	0.046	0.046	0 (≤35)	-	-

**Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-14571-2**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14571-2	RD-51B_041311_36 FB_RD-51B_041311_19 HAR-21_041311_36 FB_HAR-21_041311_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary – SDG 280-14571-2**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-14571-2**

No Sample Data Qualified in this SDG

LDC #: 25402B2b
 SDG #: 280-14571-2
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/12/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/13/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	ICS / D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound Identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	D ₁ = 1 + RD-51B-041311-01
XVI.	Field duplicates	SW	D ₂ = 3 + HAR-21-041311-01 > from 280-14571-1
XVII.	Field blanks	ND	FB = 2 4

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: *water*

1	RD-51B_041311_36	PI	11	MD 280-62331/1-A	21	31
2	FB_RD-51B_041311_19		12	MD 280-62339/1-A	22	32
3	HAR-21_041311_36	DY	13		23	33
4	FB_HAR-21_041311_19		14		24	34
5			15		25	35
6			16		26	36
7			17		27	37
8			18		28	38
9			19		29	39
10			20		30	40

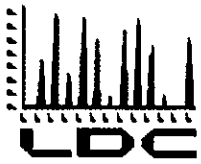
VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GC MS NDMA (EPA Method 1625M)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35%)	Qualifications (Parent Only)
	RD-51B_041311_01	RD-51B_041311_36	RPD	
NDMA	0.0063	0.0050U	23	

Compound	Concentration (ug/L)		(≤35%)	Qualifications (Parent Only)
	HAR-21_041311_01	HAR-21_041311_36	RPD	
NDMA	0.046	0.046	0	



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 18, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

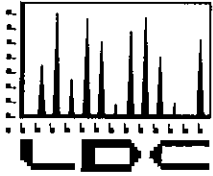
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 04, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25402:

<u>SDG #</u>	<u>Fraction</u>
280-14571/IUD1615/ A1D140430	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Polynuclear Aromatic Hydrocarbons, Pentachlorophenol, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane, Organophosphorus Pesticides, Hexachlorophene, Formaldehyde, Hydrazine
280-14571-2	N-Nitrosodimethylamine

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review, September 2005



- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

A handwritten signature in black ink that reads 'Pei Geng' in a cursive style.

Pei Geng
Project Manager/Senior Chemist

LDC #25402 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)	1,4-Dioxane 8260-S		1,2,3-TCP (524.2)		SVOA (8270C)	PAHs (8270C -SIM)		PCP (8270C -LL)		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (OK-DEQ)		EDB (504.1)		Formaldehyde (8315)		Hexachloro (8321A)		OPHS Pest. (8141A)		Herbs (8151A)					
					W	S	W	S		W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S		
Matrix:	Water/Soil																																						
A	280-14571/IUD1615	05/04/11	05/25/11	15	0	12	0	5	0	11	0	6	0	2	0	9	0	2	0	6	0	2	0	8	0	11	0	2	0	9	0	2	0	2	0	2	0		
B	280-14571-2	05/04/11	05/25/11	-	-	-	-	-	-	-	-	-	-	-	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Total	T/PG			15	0	12	0	5	0	11	0	6	0	2	0	13	0	2	0	6	0	2	0	8	0	11	0	0	0	9	0	2	0	2	0	2	0	2	0

LDC #25402 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	1,1-DMH (DVWC 0077)	MMH (DVWC 0077)	Hydra-zine (DVWC)	NH ₃ -N (350.1)	Cl SO ₄ (300.0)	Br NO ₂ O-PO ₄	F NO ₂ (300.0)	Cr(VI) (7196A)	Diss. Cr(VI) (7196A)	CN- (9012A)	CLO ₂ (314.0)	pH (9040B)	S= (4500 -S2-D)	W		S		W		S																		
																	W	S	W	S	W	S	W	S	W	S	W	S													
Matrix:	Water/Soil																																								
A	280-14571/A1D140430	05/04/11	05/25/11	5	0	3	0	5	0	5	0	4	0	4	0	4	0	4	0	4	0	4	0	4	0	2	0	5	0	2	0	2	0	2	0	2	0	2	0		
Total	T/PG			5	0	3	0	5	0	5	0	4	0	4	0	4	0	4	0	4	0	4	0	4	0	2	0	5	0	2	0	2	0	2	0	2	0	2	0	2	0

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 13, 2011

LDC Report Date: May 13, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14571-1

Sample Identification

PZ-144_041311_01
PZ-144_041311_36
EB_PZ-144_041311
TB_PZ-144_041311
HAR-05_041311_01
RD-51B_041311_01
RD-51C_041311_01
TB_RD-51C_041311
PZ-159_041311_01
EB_PZ-159_041311
TB_PZ-159_041311
RS-29_041311_01
RS-08_041311_01
TB_RS-08_041311
HAR-21_041311_01
PZ-144_041311_01MS
PZ-144_041311_01MSD

Introduction

This data review covers 17 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Samples TB_PZ-144_041311, TB_RD-51C_041311, TB_PZ-159_041311, and TB_RS-08_041311 were identified as trip blanks. No volatile contaminants were found in these blanks.

Samples EB_PZ-144_041311 and EB_PZ-159_041311 were identified as equipment blanks. No volatile contaminants were found in these blanks.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No volatile contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14571-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples PZ-144_041311_01 and PZ-144_041311_36 were identified as field duplicates. No volatiles were detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
 Volatiles - Data Qualification Summary - SDG 280-14571-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14571-1	PZ-144_041311_01 PZ-144_041311_36 EB_PZ-144_041311 TB_PZ-144_041311 HAR-05_041311_01 RD-51B_041311_01 RD-51C_041311_01 TB_RD-51C_041311 PZ-159_041311_01 EB_PZ-159_041311 TB_PZ-159_041311 RS-29_041311_01 RS-08_041311_01 TB_RS-08_041311 HAR-21_041311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-14571-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Volatiles - Field Blank Data Qualification Summary - SDG 280-14571-1**

No Sample Data Qualified in this SDG

LDC #: 25402A1a
 SDG #: 280-14571-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/11/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/13/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	VCS 10
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	ND	D _i = 1, 2
XVII.	Field blanks	ND	EB = 3, 10 TB = 4, 8, 11, 14 FB = 041411-19

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

(from 280-14655-1)

Validated Samples:

Water

1	PZ-144_041311_01	D1	11	TB_PZ-159_041311	21	MB 280-62324/6	31	(FFF, 6666)
2	PZ-144_041311_36	b1	12	RS-29_041311_01	22	MB 280-62969/6	32	
3	EB_PZ-144_041311		13	RS-08_041311_01	23		33	
4	TB_PZ-144_041311		14	TB_RS-08_041311	24		34	
5	HAR-05_041311_01		15	HAR-21_041311_01	25		35	
6	RD-51B_041311_01		16	PZ-144_041311_01MS	26		36	
7	RD-51C_041311_01		17	PZ-144_041311_01MSD	27		37	
8	TB_RD-51C_041311		18		28		38	
9	PZ-159_041311_01		19		29		39	
10	EB_PZ-159_041311		20		30		40	

8260 STD W = 1-4, 9-12
 VOCs + IPA = 5-8
 APP IX, A3A = 13-15

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 13, 2011

LDC Report Date: May 13, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14571-1

Sample Identification

PZ-144_041311_01
PZ-144_041311_36
EB_PZ-144_041311
TB_PZ-144_041311
HAR-05_041311_01
RD-51B_041311_01
RD-51C_041311_01
TB_RD-51C_041311
RS-29_041311_01
RS-08_041311_01
TB_RS-08_041311
HAR-21_041311_01

Introduction

This data review covers 12 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-dioxane was found in the method blanks.

Samples TB_PZ-144_041311, TB_RD-51C_041311, and TB_RS-08_041311 were identified as trip blanks. No 1,4-dioxane was found in these blanks.

Sample EB_PZ-144_041311 was identified as an equipment blank. No 1,4-dioxane was found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No 1,4-dioxane was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14571-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples PZ-144_041311_01 and PZ-144_041311_36 were identified as field duplicates. No 1,4-dioxane was detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-14571-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14571-1	PZ-144_041311_01 PZ-144_041311_36 EB_PZ-144_041311 TB_PZ-144_041311 HAR-05_041311_01 RD-51B_041311_01 RD-51C_041311_01 TB_RD-51C_041311 RS-29_041311_01 RS-08_041311_01 TB_RS-08_041311 HAR-21_041311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-14571-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-14571-1**

No Sample Data Qualified in this SDG

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/13/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	UCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	ND	D = 1, 2
XVII.	Field blanks	ND	EB = 3, TB = 4, 8, 11, FB = FB.0419, L19

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

(280-14655-1)

Validated Samples:

Water

1	PZ-144_041311_01	11	TB_RS-08_041311	21	MB 280-63047/5	31
2	PZ-144_041311_36	12	HAR-21_041311_01	22		32
3	EB_PZ-144_041311	13		23		33
4	TB_PZ-144_041311	14		24		34
5	HAR-05_041311_01	15		25		35
6	RD-51B_041311_01	16		26		36
7	RD-51C_041311_01	17		27		37
8	TB_RD-51C_041311	18		28		38
9	RS-29_041311_01	19		29		39
10	RS-08_041311_01	20		30		40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 13, 2011

LDC Report Date: May 13, 2011

Matrix: Water

Parameters: 1,2,3-Trichloropropane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14571-1/IUD1615

Sample Identification

RD-51B_041311_01
RD-51C_041311_01
RS-08_041311_01
TB_RS-08_041311
HAR-21_041311_01
RD-51C_041311_01DUP

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-trichloropropane was found in the method blanks.

Sample TB_RS-08_041311 was identified as a trip blank. No 1,2,3-trichloropropane was found in this blank.

VI. Surrogate Spikes

Surrogate spikes were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Raw data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14571-1/IUD1615	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011

1,2,3-Trichloropropane - Data Qualification Summary - SDG 280-14571-1/IUD1615

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14571-1/IUD1615	RD-51B_041311_01 RD-51C_041311_01 RS-08_041311_01 TB_RS-08_041311 HAR-21_041311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011

1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG 280-14571-1/IUD1615

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011

1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG 280-14571-1/IUD1615

No Sample Data Qualified in this SDG

METHOD: GC/MS 1,2,3-Trichloropropane (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/13/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates/Lab Dup	N/A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 4

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	RD-51B_041311_01	11	11 D2206 - BIK1	21	31
2	RD-51C_041311_01	12	11 D 2393 - ↓	22	32
3	RS-08_041311_01	13		23	33
4	TB_RS-08_041311	14		24	34
5	HAR-21_041311_01	15		25	35
6	RD-51C_041311_01DUP	16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 13, 2011
LDC Report Date: May 17, 2011
Matrix: Water
Parameters: Semivolatiles
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14571-1

Sample Identification

PZ-144_041311_01
PZ-144_041311_36
EB_PZ-144_041311
HAR-05_041311_01
RD-51B_041311_01
RD-51C_041311_01
PZ-159_041311_01
EB_PZ-159_041311
RS-29_041311_01
RS-08_041311_01
HAR-21_041311_01

Introduction

This data review covers 11 water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

Sample EB_PZ-144_041311 and EB_PZ-159_041311 were identified as equipment blanks. No semivolatile contaminants were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-144_041311	4/13/11	Bis(2-ethylhexyl)phthalate	2.9 ug/L	PZ-144_041311_01 PZ-144_041311_36
EB_PZ-159_041311	4/13/11	Bis(2-ethylhexyl)phthalate	3.0 ug/L	PZ-159_041311_01

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No semivolatile contaminants were found in this blank.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-144_041311_36	Bis(2-ethylhexyl)phthalate	2.5 ug/L	52U ug/L

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-159_041311_01	Bis(2-ethylhexyl)phthalate	2.9 ug/L	50U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/LCSD 280-63231/2,3-A (HAR-21_041311_01 MB 280-63231/1-A)	Hexachlorocyclopentadiene	-	-	82 (≤72)	J (all detects) UJ (all non-detects)	P

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14571-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples PZ-144_041311_01 and PZ-144_041311_36 were identified as field duplicates. No semivolatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	PZ-144_041311_01	PZ-144_041311_36			
Bis(2-ethylhexyl) phthalate	49U	2.5	181 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-14571-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14571-1	HAR-21_041311_01	Hexachlorocyclopentadiene	J (all detects) UJ (all non-detects)	P	Laboratory control samples (RPD) (E)
280-14571-1	PZ-144_041311_01 PZ-144_041311_36 EB_PZ-144_041311 HAR-05_041311_01 RD-51B_041311_01 RD-51C_041311_01 PZ-159_041311_01 EB_PZ-159_041311 RS-29_041311_01 RS-08_041311_01 HAR-21_041311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-14571-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-14571-1**

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-14571-1	PZ-144_041311_36	Bis(2-ethylhexyl)phthalate	52U ug/L	A	F
280-14571-1	PZ-159_041311_01	Bis(2-ethylhexyl)phthalate	50U ug/L	A	F

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/13/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	SW	LCS / D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D = 1, 2
XVII.	Field blanks	SW	EB = 3, 8 TB = FB.041411-19 (280-14655-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	PZ-144_041311_01	11	HAR-21_041311_01	21	MB 280-62292/1-A	31
2	PZ-144_041311_36	12		22	MB 280-63271/1-A	32
3	EB_PZ-144_041311	13		23	MB 280-62572/1-A	33
4	HAR-05_041311_01	14		24		34
5	RD-51B_041311_01	15		25		35
6	RD-51C_041311_01	16		26		36
7	PZ-159_041311_01	17		27		37
8	EB_PZ-159_041311	18		28		38
9	RS-29_041311_01	19		29		39
10	RS-08_041311_01	20		30		40

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes:* = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

VALIDATION FINDINGS WORKSHEET
Field Blanks

LDC #: 25 403 A 2a Page: 1 of 1
 SDG #: See Cover Reviewer: DYG
 2nd Reviewer: CA

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

Y/N N/A Were field blanks identified in this SDG?
 Y/N N/A Were target compounds detected in the field blanks?

Blank units: ug/L Associated sample units: ug/L
 Sampling date: 4/12/11

Field blank type: (circle one) Field Blank / Rinsate / Other: Field Blank Associated Samples: 1, 2 Code: F

Compound	EB Blank ID	Sample Identification																	
EEE	2.9	2																	
		2.5/52M																	

Blank units: ug/L Associated sample units: ug/L
 Sampling date: 4/12/11
 Field blank type: (circle one) Field Blank / Rinsate / Other: Field Blank Associated Samples: 7 Code: F

Compound	EB Blank ID	Sample Identification																	
EEE	3.0	7																	
		2.9/504																	

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".
 FBLKASC2.wpd

VALIDATION FINDINGS WORKSHEET
Field Duplicates**METHOD:** GC MS SVOA (EPA SW 846 Method 8270C)Y N NA

Were field duplicate pairs identified in this SDG?

Y N NA

Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤ 35)	Qualifications
	1	2	RPD	(Parent only)
Bis(2-ethylhexyl) phthalate	49U	2.5	181	NQ(<5XRL)

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 13, 2011

LDC Report Date: May 13, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14571-1

Sample Identification

PZ-144_041311_01
PZ-144_041311_36
EB_PZ-144_041311
HAR-05_041311_01
RD-51B_041311_01
RD-51C_041311_01
RS-29_041311_01
RS-08_041311_01
HAR-21_041311_01

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-nitrosodimethylamine was found in the method blanks.

Sample EB_PZ-144_041311 was identified as an equipment blank. No N-nitrosodimethylamine was found in this blank.

Samples FB_041411_19 (from SDG 280-14655-1), FB_RD-51B_041311_19 and FB_HAR-21_041311_19 (both from SDG 280-14571-1) were identified as a field blanks. No N-nitrosodimethylamine was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14571-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples PZ-144_041311_01 and PZ-144_041311_36 and samples RD-51B_041311_01 and RD-51B_041311_36 (from SDG 280-14571-2) and samples HAR-21_041311_01 and HAR-21_041311_36 (from SDG 280-14571-2) were identified as field duplicates. No N-nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	RD-51B_041311_01	RD-51B_041311_36			
N-Nitrosodimethylamine	0.0063	0.0050U	23 (≤35)	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-21_041311_01	HAR-21_041311_36			
N-Nitrosodimethylamine	0.046	0.046	0 (≤35)	-	-

**Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-14571-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14571-1	PZ-144_041311_01 PZ-144_041311_36 EB_PZ-144_041311 HAR-05_041311_01 RD-51B_041311_01 RD-51C_041311_01 RS-29_041311_01 RS-08_041311_01 HAR-21_041311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary – SDG 280-14571-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-14571-1**

No Sample Data Qualified in this SDG

LDC #: 25402A2b
 SDG #: 280-14571-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/11/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/13/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS 1b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D ₁ = 1, 2 D ₂ = 5 + RD-51B-041311-36 D ₃ = 9 + HAR-21-041311-26 > (280-14571-2)
XVII.	Field blanks	ND	EB = 3 FB = FB_041411_19

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

* ND = No compounds detected
 R = Rinsate
 FB = Field blank
 FB = FB_RD-51B-041411-19
 FB - HAR-21-041311-26 (from 280-14571-1)
 (280-14655-1)
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	PZ-144_041311_01	D ₁	11	MB 280-62517/A-A	21		31
2	PZ-144_041311_36	D ₁	12		22		32
3	EB_PZ-144_041311		13		23		33
4	HAR-05_041311_01		14		24		34
5	RD-51B_041311_01	D ₂	15		25		35
6	RD-51C_041311_01		16		26		36
7	RS-29_041311_01		17		27		37
8	RS-08_041311_01		18		28		38
9	HAR-21_041311_01	D ₃	19		29		39
10			20		30		40

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GC MS NDMA (EPA Method 1625M)

Y N NA
Y N NA

Were field duplicate pairs identified in this SDG?
 Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		($\leq 35\%$)	Qualifications (Parent Only)
	RD-51B_041311_01	RD-51B_041311_36	RPD	
NDMA	0.0063	0.0050U	23	

Compound	Concentration (ug/L)		($\leq 35\%$)	Qualifications (Parent Only)
	HAR-21_041311_01	HAR-21_041311_36	RPD	
NDMA	0.046	0.046	0	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 13, 2011

LDC Report Date: May 17, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14571-1

Sample Identification

PZ-144_041311_01
PZ-144_041311_36
EB_PZ-144_041311
PZ-159_041311_01
EB_PZ-159_041311
RS-29_041311_01

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per a modification of EPA SW 846 Method 8270C using Selected Ion Monitoring (SIM) for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-62312/1-A	4/14/11	Di-n-octylphthalate	0.109 ug/L	All samples in SDG 280-14571-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
PZ-144_041311_01	Di-n-octylphthalate	0.18 ug/L	9.9U ug/L
PZ-144_041311_36	Di-n-octylphthalate	0.096 ug/L	11U ug/L
EB_PZ-144_041311	Di-n-octylphthalate	0.080 ug/L	10U ug/L
PZ-159_041311_01	Di-n-octylphthalate	0.23 ug/L	10U ug/L
EB_PZ-159_041311	Di-n-octylphthalate	0.11 ug/L	10U ug/L

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
RS-29_041311_01	Di-n-octylphthalate	0.20 ug/L	9.6U ug/L

Samples EB_PZ-144_041311 and EB_PZ-159_041311 were identified as equipment blanks. No semivolatile contaminants were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-144_041311	4/13/11	Di-n-octylphthalate Di-n-butylphthalate	0.080 ug/L 0.017 ug/L	PZ-144_041311_01 PZ-144_041311_36
EB_PZ-159_041311	4/13/11	Di-n-butylphthalate Di-n-octylphthalate Phenanthrene	0.018 ug/L 0.11 ug/L 0.012 ug/L	PZ-159_041311_01

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No semivolatile contaminants were found in this blank.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-144_041311_01	Di-n-octylphthalate Di-n-butylphthalate	0.18 ug/L 0.060 ug/L	9.9U ug/L 9.9U ug/L
PZ-144_041311_36	Di-n-octylphthalate Di-n-butylphthalate	0.096 ug/L 0.043 ug/L	11U ug/L 11U ug/L
PZ-159_041311_01	Di-n-butylphthalate Di-n-octylphthalate	0.036 ug/L 0.23 ug/L	10U ug/L 10U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14571-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples PZ-144_041311_01 and PZ-144_041311_36 were identified as field duplicates. No semivolatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	PZ-144_041311_01	PZ-144_041311_36			
Chrysene	0.0036	11U	200 (≤35)	NQ	-
Bis(2-ethylhexyl) phthalate	0.17	0.44	89 (≤35)	NQ	-
Di-n-butyl phthalate	0.060	0.043	33 (≤35)	-	-
Diethyl phthalate	0.47	0.13	113 (≤35)	NQ	-
Di-n-octyl phthalate	0.18	0.096	61 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles- Data Qualification Summary - SDG 280-14571-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14571-1	PZ-144_041311_01 PZ-144_041311_36 EB_PZ-144_041311 PZ-159_041311_01 EB_PZ-159_041311 RS-29_041311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles- Laboratory Blank Data Qualification Summary - SDG 280-14571-1**

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-14571-1	PZ-144_041311_01	Di-n-octylphthalate	9.9U ug/L	A	B
280-14571-1	PZ-144_041311_36	Di-n-octylphthalate	11U ug/L	A	B
280-14571-1	EB_PZ-144_041311	Di-n-octylphthalate	10U ug/L	A	B
280-14571-1	PZ-159_041311_01	Di-n-octylphthalate	10U ug/L	A	B
280-14571-1	EB_PZ-159_041311	Di-n-octylphthalate	10U ug/L	A	B
280-14571-1	RS-29_041311_01	Di-n-octylphthalate	9.6U ug/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles- Field Blank Data Qualification Summary - SDG 280-14571-1**

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-14571-1	PZ-144_041311_01	Di-n-octylphthalate Di-n-butylphthalate	9.9U ug/L 9.9U ug/L	A	F
280-14571-1	PZ-144_041311_36	Di-n-octylphthalate Di-n-butylphthalate	11U ug/L 11U ug/L	A	F
280-14571-1	PZ-159_041311_01	Di-n-butylphthalate Di-n-octylphthalate	10U ug/L 10U ug/L	A	F

METHOD: GC/MS ^{Semi volatile} Polynuclear Aromatic Hydrocarbons (EPA SW846 Method 8270C-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/13/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS 6
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D = 1, 2
XVII.	Field blanks	SW	EB = 3, 5 *FB = FB_041411-19

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

*ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

(280-14655-1)

Validated Samples:

Water

1	PZ-144_041311_01	11	MB 280-62312/1-A	21	31
2	PZ-144_041311_36	12		22	32
3	EB_PZ-144_041311	13		23	33
4	PZ-159_041311_01	14		24	34
5	EB_PZ-159_041311	15		25	35
6	RS-29_041311_01	16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis(2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes: * = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

Blanks

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- Y N N/A Was a method blank analyzed for each matrix?
- Y N N/A Was a method blank analyzed for each concentration preparation level?
- Y N N/A Was a method blank associated with every sample?
- Y N N/A Was the blank contaminated? If yes, please see qualification below.

Blank extraction date: 4/14/11 Blank analysis date: 4/21/11

Conc. units: ug/L Associated Samples: All

Code: B

Compound	Blank ID	Sample Identification					
MB	280-62312	1	2	3	4	5	6
FFF	0.109	0.18 / 9.94	0.096 / 11.4	0.080 / 10.4	0.23 / 10.4	0.11 / 10.4	0.20 / 9.64

Blank extraction date: _____ Blank analysis date: _____

Conc. units: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification					

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

Y/N N/A Were field blanks identified in this SDG?

Y/N N/A Were target compounds detected in the field blanks?

Blank units: wg/L Associated sample units: wg/L

Sampling date: 4/15/11

Field blank type: (circle one) Field Blank / Rinsate / Other:

Associated Samples: 1, 2

Code: F

Compound	Blank ID					Sample Identification
	<u>3</u>	<u>1</u>	<u>2</u>			
FFF	0.080	0.18 / 9.94	0.096 / 11.0			
XX	0.017	0.060 / ↓	0.043 / ↓			

Blank units: wg/L Associated sample units: wg/L

Sampling date: 4/12/11

Field blank type: (circle one) Field Blank / Rinsate / Other:

Associated Samples: 4

Code: F

Compound	Blank ID					Sample Identification
	<u>5</u>	<u>4</u>				
XX	0.018	0.036 / 16.0				
FFF	0.11	0.23 / ↓				
UU	0.017					

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:

Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GC MS SVOA (EPA SW 846 Method 8270C-SIM)

Y N NA
 Y N NA

Were field duplicate pairs identified in this SDG?

Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		RPD	Qualifications (Parent only)
	1	2		
Chrysene	0.0036	11U	200	NQ(<5XRL)
Bis(2-ethylhexyl) phthalate	0.17	0.44	89	NQ(<5XRL)
Di-n-butyl phthalate	0.060	0.043	33	
Diethyl phthalate	0.47	0.13	113	NQ(<5XRL)
Di-n-octyl phthalate	0.18	0.096	61	NQ(<5XRL)

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 13, 2011

LDC Report Date: May 17, 2011

Matrix: Water

Parameters: Pentachlorophenol

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14571-1

Sample Identification

RS-08_041311_01

HAR-21_041311_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per a modification of EPA SW 846 Method 8270C for Pentachlorophenol.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No pentachlorophenol was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14571-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Data Qualification Summary - SDG 280-14571-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14571-1	RS-08_041311_01 HAR-21_041311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Laboratory Blank Data Qualification Summary - SDG 280-14571-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Field Blank Data Qualification Summary - SDG 280-14571-1**

No Sample Data Qualified in this SDG

LDC #: 25402A2d
 SDG #: 280-14571-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/11/11
 Page: 1 of 1
 Reviewer: SVL
 2nd Reviewer:

METHOD: GC/MS Pentachlorophenol (EPA SW846 Method 8270C-LL)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/13/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	ICS 1D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinseate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	RS-08_041311_01	11	MD 280-62533/A	21		31
2	HAR-21_041311_01	12		22		32
3		13		23		33
4		14		24		34
5		15		25		35
6		16		26		36
7		17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 13, 2011

LDC Report Date: May 13, 2011

Matrix: Water

Parameters: Chlorinated Pesticides

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14571-1

Sample Identification

RS-08_041311_01

HAR-21_041311_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D 280-62596/2-A, 3-A (All samples in SDG 280-14571-1)	4,4'-DDT Aldrin Dieldrin gamma-BHC Heptachlor	- - - - -	- - - - -	36 (≤25) 52 (≤33) 34 (≤22) 34 (≤26) 46 (≤27)	J (all detects) UJ (all non-detects)	P
LCS/D 280-62596/2-A, 3-A (All samples in SDG 280-14571-1)	Endrin	141 (66-127)	-	-	J (all detects)	P

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

Raw data were not reviewed for this SDG.

XIII. Compound Quantitation and Reported CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14571-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG

XIV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Data Qualification Summary - SDG 280-14571-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14571-1	RS-08_041311_01 HAR-21_041311_01	4,4'-DDT Aldrin Dieldrin gamma-BHC Heptachlor	J (all detects) UJ (all non-detects)	P	Laboratory control samples (RPD) (E)
280-14571-1	RS-08_041311_01 HAR-21_041311_01	Endrin	J (all detects)	P	Laboratory control samples (%R) (L)
280-14571-1	RS-08_041311_01 HAR-21_041311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 280-14571-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Field Blank Data Qualification Summary - SDG 280-14571-1**

No Sample Data Qualified in this SDG

LDC #: 25402A3a
 SDG #: 280-14571-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/11/11
 Page: 1 of 1
 Reviewer: DVG
 2nd Reviewer: A

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/13/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	SW A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	SW	LCS / D
IX.	Regional quality assurance and quality control	N	
X.	Florisil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation and reported CRQLs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates	N	
XVI.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

W. G. O'Neil

1	RS-08_041311_01	11	MB 280-62596 / 1-A	21	31
2	HAR-21_041311_01	12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG. Chlordane
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH. Chlordane (Technical)
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II. Aroclor 1262
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ. Aroclor 1268
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. 2,4'-DDD	KK.
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. 2,4'-DDE	LL.
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE. 2,4'-DDT	MM.
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF. Hexachlorobenzene	NN.

Notes: _____

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)
 Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
 N N/A Were a laboratory control samples (LCS) and laboratory control sample duplicate (LCSD) analyzed for each matrix in this SDG?
 N N/A Were the LCS percent recoveries (%R) and relative percent differences (RPD) within the QC limits?
 Y N N/A Level IV/D Only
 Y N N/A Was a LCS analyzed every 20 samples for each matrix or whenever a sample extraction was performed?

#	Date	LCS/LCSD ID	Compound	LCS %R (Limits)	LCS %R (Limits)	LCS %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		LCS b 280-62596 A-A3-A	D	()	()	()	36 (25)	All	J/MT/P (E) ↓
			F	()	()	()	52 (33)		↓
			I	()	()	()	34 (22)		↓
			K	141	(66-127)	()	()		Jd,ts/p (L) ↓
			D	()	()	()	34 (26)		J/MT/P (E) ↓
			E	()	()	()	46 (27)	✓	↓
				()	()	()	()		
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**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 13, 2011
LDC Report Date: May 17, 2011
Matrix: Water
Parameters: Polychlorinated Biphenyls
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14571-1

Sample Identification

PZ-144_041311_01
PZ-144_041311_36
EB_PZ-144_041311
RS-29_041311_01
RS-08_041311_01
HAR-21_041311_01

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

Sample EB_PZ-144_041311 was identified as an equipment blank. No polychlorinated biphenyl contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No polychlorinated biphenyl contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

.Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

Raw data were not reviewed for this SDG.

XIII. Compound Quantitation and Reported CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14571-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

Samples PZ-144_041311_01 and PZ-144_041311_36 were identified as field duplicates. No polychlorinated biphenyls were detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Data Qualification Summary - SDG 280-14571-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14571-1	PZ-144_041311_01 PZ-144_041311_36 EB_PZ-144_041311 RS-29_041311_01 RS-08_041311_01 HAR-21_041311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 280-14571-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG 280-14571-1**

No Sample Data Qualified in this SDG

LDC #: 25402A3b
 SDG #: 280-14571-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/11/11
 Page: 1 of 1
 Reviewer: SVK
 2nd Reviewer: A

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/13/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS 10
IX.	Regional quality assurance and quality control	N	
X.	Florisil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation and reported CRQLs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates	ND	D = 1, ✓
XVI.	Field blanks	ND	EB = 3 PB = FB_04/11-19

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinse
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

(280-14855-1)

Validated Samples:

Vit ef

1	PZ-144_041311_01	11	MB 280-62596 / A-A	21		31
2	PZ-144_041311_36	12	MB 280-62670 / A-A	22		32
3	EB_PZ-144_041311	13	MB 280-63228 / A-A	23		33
4	RS-29_041311_01	14		24		34
5	RS-08_041311_01	15		25		35
6	HAR-21_041311_01	16		26		36
7		17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 13, 2011
LDC Report Date: May 11, 2011
Matrix: Water
Parameters: Metals
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14571-1

Sample Identification

RS-08_041311_01
HAR-21_041311_01
PZ-144_041311_01F
PZ-144_041311_36F
EB_PZ-144_041311F
PZ-159_041311_01F
EB_PZ-159_041311F
RS-29_041311_01F
RS-08_041311_01F
HAR-21_041311_01F
RS-08_041311_01MS
RS-08_041311_01MSD
PZ-144_041311_01FMS
PZ-144_041311_01FMSD

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 14 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B, 6020, and 7000 for Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Thallium	0.0000201 mg/L	PZ-144_041311_01F PZ-144_041311_36F EB_PZ-144_041311F PZ-159_041311_01F EB_PZ-159_041311F RS-29_041311_01F RS-08_041311_01F HAR-21_041311_01F
PB (prep blank)	Manganese	0.000600 mg/L	PZ-144_041311_01F PZ-144_041311_36F EB_PZ-144_041311F PZ-159_041311_01F EB_PZ-159_041311F RS-29_041311_01F
PB (prep blank)	Tin	0.000339 mg/L	RS-08_041311_01F HAR-21_041311_01F
PB (prep blank)	Mercury Tin	0.0000310 mg/L 0.000214 mg/L	RS-08_041311_01 HAR-21_041311_01
PB (prep blank)	Mercury	0.0000370 mg/L	PZ-144_041311_01F PZ-144_041311_36F EB_PZ-144_041311F RS-29_041311_01F RS-08_041311_01F HAR-21_041311_01F

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
RS-08_041311_01	Mercury Tin	0.000034 mg/L 0.00031 mg/L	0.000034U mg/L 0.00031U mg/L
HAR-21_041311_01	Mercury Tin	0.000029 mg/L 0.0043 mg/L	0.000029U mg/L 0.0043U mg/L
PZ-144_041311_01F	Manganese Thallium Mercury	0.00051 mg/L 0.000033 mg/L 0.000034 mg/L	0.00051U mg/L 0.000033U mg/L 0.000034U mg/L
PZ-144_041311_36F	Thallium Mercury	0.000026 mg/L 0.000040 mg/L	0.000026U mg/L 0.000040U mg/L
EB_PZ-144_041311F	Mercury	0.000035 mg/L	0.000035U mg/L
PZ-159_041311_01F	Manganese	0.00069 mg/L	0.00069U mg/L
RS-29_041311_01F	Thallium Mercury	0.000024 mg/L 0.000041 mg/L	0.000024U mg/L 0.000041U mg/L
RS-08_041311_01F	Tin Mercury	0.00017 mg/L 0.000035 mg/L	0.00017U mg/L 0.000035U mg/L
HAR-21_041311_01F	Mercury	0.000035 mg/L	0.000035U mg/L

Samples EB_PZ-144_041311F and EB_PZ-159_041311F were identified as equipment blanks. No metal contaminants were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_PZ-144_041311F	4/13/11	Sodium Cobalt Mercury	0.12 mg/L 0.000010 mg/L 0.000035 mg/L	PZ-144_041311_01F PZ-144_041311_36F
EB_PZ-159_041311F	4/13/11	Sodium	0.097 mg/L	PZ-159_041311_01F

Sample FB_041411_19F (from SDG 250-14655-1) was identified as a field blank. No metal contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_041411_19F	4/14/11	Iron Manganese Sodium Tin	0.082 mg/L 0.0012 mg/L 0.29 mg/L 0.00017 mg/L	PZ-144_041311_01F PZ-144_041311_36F PZ-159_041311_01F

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
PZ-144_041311_01F	Mercury Manganese	0.000034 mg/L 0.00051 mg/L	0.000034U mg/L 0.00051U mg/L
PZ-144_041311_36F	Cobalt Mercury	0.000042 mg/L 0.000040 mg/L	0.000042U mg/L 0.000040U mg/L
PZ-159_041311_01F	Manganese	0.00069 mg/L	0.00069U mg/L

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
RS-08_041311_01MS/MSD (RS-08_041311_01 HAR-21_041311_01)	Vanadium	-	126 (75-125)	-	J (all detects)	A

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution data were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-14571-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

Samples PZ-144_041311_01F and PZ-144_041311_36F were identified as split samples. No metals were detected in any of the samples with the following exceptions:

Compound	Concentration (mg/L)		RPD (Limits)	Flags	A or P
	PZ-144_041311_01F	PZ-144_041311_36F			
Arsenic	0.0044	0.0043	2 (≤ 35)	-	-
Barium	0.010	0.0063	45 (≤ 35)	NQ	-
Boron	0.072	0.071	1 (≤ 35)	-	-
Calcium	37	37	0 (≤ 35)	-	-
Chromium	0.00066	0.00050	28 (≤ 35)	-	-
Cobalt	0.000053	0.000042	23 (≤ 35)	-	-

Compound	Concentration (mg/L)		RPD (Limits)	Flags	A or P
	PZ-144_041311_01F	PZ-144_041311_36F			
Magnesium	13	13	0 (≤35)	-	-
Manganese	0.00051	0.00031U	49 (≤35)	NQ	-
Mercury	0.000034	0.000040	16 (≤35)	-	-
Nickel	0.00061	0.00056	9 (≤35)	-	-
Potassium	4.8	4.8	0 (≤35)	-	-
Selenium	0.0037	0.0035	6 (≤35)	-	-
Silver	0.000015U	0.000018	18 (≤35)	-	-
Sodium	68	67	1 (≤35)	-	-
Thallium	0.000033	0.000026	24 (≤35)	-	-
Vanadium	0.0045	0.0051	13 (≤35)	-	-
Molybdenum	0.012	0.014	15 (≤35)	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Data Qualification Summary - SDG 280-14571-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-14571-1	RS-08_041311_01 HAR-21_041311_01	Vanadium	J (all detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
280-14571-1	RS-08_041311_01 HAR-21_041311_01 PZ-144_041311_01F PZ-144_041311_36F EB_PZ-144_041311F PZ-159_041311_01F EB_PZ-159_041311F RS-29_041311_01F RS-08_041311_01F HAR-21_041311_01F	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Laboratory Blank Data Qualification Summary - SDG 280-14571-1**


SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-14571-1	RS-08_041311_01	Mercury Tin	0.000034U mg/L 0.00031U mg/L	A	B
280-14571-1	HAR-21_041311_01	Mercury Tin	0.000029U mg/L 0.0043U mg/L	A	B
280-14571-1	PZ-144_041311_01F	Manganese Thallium Mercury	0.00051U mg/L 0.000033U mg/L 0.000034U mg/L	A	B
280-14571-1	PZ-144_041311_36F	Thallium Mercury	0.000026U mg/L 0.000040U mg/L	A	B
280-14571-1	EB_PZ-144_041311F	Mercury	0.000035U mg/L	A	B
280-14571-1	PZ-159_041311_01F	Manganese	0.00069U mg/L	A	B
280-14571-1	RS-29_041311_01F	Thallium Mercury	0.000024U mg/L 0.000041U mg/L	A	B
280-14571-1	RS-08_041311_01F	Tin Mercury	0.00017U mg/L 0.000035U mg/L	A	B
280-14571-1	HAR-21_041311_01F	Mercury	0.000035U mg/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Field Blank Data Qualification Summary - SDG 280-14571-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-14571-1	PZ-144_041311_01F	Mercury Manganese	0.000034U mg/L 0.00051U mg/L	A	F
280-14571-1	PZ-144_041311_36F	Cobalt Mercury	0.000042U mg/L 0.000040U mg/L	A	F
280-14571-1	PZ-159_041311_01F	Manganese	0.00069U mg/L	A	F

LDC #: 25402A4
 SDG #: 280-14571-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5-10-11
 Page: 1 of 1
 Reviewer: MG
 2nd Reviewer: 

METHOD: Metals (EPA SW 846 Method 6010B/6020/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4-13-11
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	SW	MS / MSD
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	A	LCS
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	not utilized
XI.	ICP Serial Dilution	AN	not reviewed for Level V
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	
XIV.	Field Duplicates	SW	D = 3 + 4
XV.	Field Blanks	SW	EB = 5, 7

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

FB = FB-041411-19F (SDG: 280-14655-1)

Validated Samples:

all water

1 ¹	RS-08_041311_01	11 ¹	RS-08_041311_01MS	21		31	
2 ¹	HAR-21_041311_01	12 ¹	RS-08_041311_01MSD	22		32	
3	PZ-144_041311_01F	13	PZ-144_041311_01FMS	23		33	
4	PZ-144_041311_36F	14	PZ-144_041311_01FMSD	24		34	
5	EB_PZ-144_041311F	15		25		35	
6	PZ-159_041311_01F	16		26		36	
7	EB_PZ-159_041311F	17		27		37	
8	RS-29_041311_01F	18		28		38	
9	RS-08_041311_01F	19		29 ¹	PBW1	39	
10	HAR-21_041311_01F	20		30 ²	PBW2	40	

Notes: Samples appended with "F" were analyzed for dissolved metals

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)

Sample Concentration units, unless otherwise noted: mg/L Associated Samples: all dissolved Qual: U (B)
Soil preparation factor applied: NA

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	3	4	6	8
Tl		0.0000201		0.000100	0.000033	0.000026		0.000024

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)

Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 3-8 Qual: U (B)
Soil preparation factor applied: NA

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	3	4	6
Mn		0.000600		0.003	0.00051		0.00069

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)

Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 9, 10 Qual: U (B)
Soil preparation factor applied: NA

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	9
Sn		0.000339		0.001695	0.00017

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)

Sample Concentration units, unless otherwise noted: mg/L Associated Samples: all total Qual: U (B)
Soil preparation factor applied: NA

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (mg/L)	Action Limit	1	2
Hg		0.0000310		0.000155	0.000034	0.000029
Sn		0.000214		0.00107	0.00031	0.00043

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)

Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 3-5, 8-10 Qual: U (B)
Soil preparation factor applied: NA

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	3	4	5	8	9	10
Hg		0.0000370		0.000185	0.000034	0.000040	0.000035	0.000041	0.000035	0.000035

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

N/A Were field blanks identified in this SDG?

N/A Were target analytes detected in the field blanks?

Blank units: mg/L Associated sample units: mg/L

Sampling date: 4/13/11 Soil factor applied: NA

Field blank type: (circle one) Field Blank / Rinsate Other EB Associated Samples: 3, 4 Qual: U (F)

Analyte	Blank ID	Sample Identification			
	5	Action Level	3	4	
Na	0.12	0.6			
Co	0.000010	0.00005		0.000042	
Hg	0.000035	0.000175	0.000034	0.000040	

Blank units: mg/L Associated sample units: mg/L

Sampling date: 4/13/11 Soil factor applied: NA

Field blank type: (circle one) Field Blank / Rinsate Other EB Associated Samples: 6 (>5X)

Analyte	Blank ID	Sample Identification			
	7	Action Level	No Qual.		
Na	0.097	0.485			

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

Y N N/A Were field blanks identified in this SDG?

Y N N/A Were target analytes detected in the field blanks?

Blank units: mg/L **Associated sample units:** mg/L

Sampling date: 4/14/11 Soil factor applied NA

Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: 3, 4, 6 (Not analyzed for Sn) Qual: U (F)

Analyte	Blank ID	Action Level	3	6	Sample Identification					
Fe	0.082	0.41								
Mn	0.0012	0.006	0.00051	0.00069						
Na	0.29	1.45								
Sn	0.00017	0.00085								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:

Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

METHOD: Trace metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

N N/A Was a matrix spike analyzed for each matrix in this SDG?

N N/A Were matrix spike percent recoveries (%R) within the control limits of 75-125? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.

N N/A Were all duplicate sample relative percent differences (RPD) ≤ 20% for water samples and ≤ 35% for soil samples?

LEVEL IV ONLY:

N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	MS/MSD ID	Matrix	Analyte	MS %Recovery	MSD %Recovery	RPD (Limits)	Associated Samples	Qualifications
1	11/12	water	V		126 (75-125)		1, 2	5 det's / A (Q)

Comments:

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: Metals (EPA Method 6010B/7000)

Y N NA
Y N NA

Were field duplicate pairs identified in this SDG?
 Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	Qual. Parent only
	3	4		
Arsenic	0.0044	0.0043	2	
Barium	0.010	0.0063	45	<i>Jdets/A (E) No qual</i> <i>[Signature]</i>
Boron	0.072	0.071	1	<i>[Signature]</i>
Calcium	37	37	0	
Chromium	0.00066	0.00050	28	
Cobalt	0.000053	0.000042	23	
Magnesium	13	13	0	
Manganese	0.00051	0.00031U	49	<i>JUJIA (E) No qual</i> <i>[Signature]</i>
Mercury	0.000034	0.000040	16	
Nickel	0.00061	0.00056	9	
Potassium	4.8	4.8	0	
Selenium	0.0037	0.0035	6	
Silver	0.000015U	0.000018	18	
Sodium	68	67	1	
Thallium	0.000033	0.000026	24	
Vanadium	0.0045	0.0051	13	
Molybdenum	0.012	0.014	15	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 13, 2011

LDC Report Date: May 13, 2011

Matrix: Water

Parameters: Herbicides

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14571-1

Sample Identification

RS-08_041311_01

HAR-21_041311_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8151A for Herbicides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No herbicide contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/(Matrix Spike) Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D 280-62536/2,3-A (All samples in SDG 280-14571-1)	2,4,5-T 2,4-D 2,4,5-TP (silvex)	- - -	- - -	34 (≤30) 39 (≤30) 32 (≤30)	J (all detects) UJ (all non-detects)	P

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14571-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Data Qualification Summary - SDG 280-14571-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14571-1	RS-08_041311_01 HAR-21_041311_01	2,4,5-T 2,4-D 2,4,5-TP (silvex)	J (all detects) UJ (all non-detects)	P	Laboratory control samples (RPD) (E)
280-14571-1	RS-08_041311_01 HAR-21_041311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Laboratory Blank Data Qualification Summary - SDG 280-14571-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Field Blank Data Qualification Summary - SDG 280-14571-1**

No Sample Data Qualified in this SDG

LDC #: 25402A5
 SDG #: 280-14571-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/11/11
 Page: 1 of 1
 Reviewer: JVG
 2nd Reviewer: A

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/13/11</u>
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	<u>client spec</u>
VII.	Laboratory control samples	SW	<u>LCS/D</u>
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

water

1	RS-08_041311_01	11	<u>MB 280-67536 A-A</u>	21		31
2	HAR-21_041311_01	12		22		32
3		13		23		33
4		14		24		34
5		15		25		35
6		16		26		36
7		17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

Notes: 2,4,5-T, 2,4-D, Dinscob, 2,4,5-TP

VALIDATION FINDINGS WORKSHEET

METHOD: GC HPLC

8310	8330	8151	8141	8141(Cont)	8021B
A. Acenaphthene	A. HMX	A. 2,4-D	A. Dichlorvos	V. Fensulfothion	V. Benzene
B. Acenaphthylene	B. RDX	B. 2,4-DB	B. Mevinphos	W. Bolstar	CC. Toluene
C. Anthracene	C. 1,3,5-Trinitrobenzene	C. 2,4,5-T	C. Demeton-O	X. EPN	EE. Ethyl Benzene
D. Benzo(a)anthracene	D. 1,3-Dinitrobenzene	D. 2,4,5-TP	D. Demeton-S	Y. Azinphos-methyl	SSS. O-Xylene
E. Benzo(a)pyrene	E. Tetra	E. Dinoseb	E. Ethoprop	Z. Coumaphos	RRR. MP-Xylene
F. Benzo(b)fluoranthene	F. Nitrobenzene	F. Dichlorprop	F. Naled	AA. Parathion	GG. Total Xylene
G. Benzo(g,h,i)perylene	G. 2,4,6-Trinitrotoluene	G. Dicamba	G. Sulfotep	BB. Trichloronate	
H. Benzo(k)fluoranthene	H. 4-Amino-2,6-dinitrotoluene	H. Dalapon	H. Phorate	CC. Trichlorinate	
I. Chrysene	I. 2-Amino-4,6-dinitrotoluene	I. MCPP	I. Dimethoate	DD. Trifluralin	
J. Dibenz(a,h)anthracene	J. 2,4-Dinitrotoluene	J. MCPA	J. Diazinon	EE. Def	
K. Fluoranthene	K. 2,6-Dinitrotoluene	K. Pentachlorophenol	K. Disulfoton	FF. Prowl	
L. Fluorene	L. 2-Nitrotoluene	L. 2,4,5-TP (silvex)	L. Parathion-methyl	GG. Ethion	
M. Indeno(1,2,3-cd)pyrene	M. 3-Nitrotoluene	M. Silvex	M. Ronnel		
N. Naphthalene	N. 4-Nitrotoluene		N. Malathion		
O. Phenanthrene	O. Nitroglycerin		O. Chlorpyrifos		
P. Pyrene	P.		P. Fenthion		
Q.	Q		Q. Parathion-ethyl		
R.			R. Trichloronate		
S.			S. Merphos		
			T. Stirofos		
			U. Tokuthion		

Notes:

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 13, 2011
LDC Report Date: May 12, 2011
Matrix: Water
Parameters: Wet Chemistry
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14571-1

Sample Identification

PZ-144_041311_01
PZ-144_041311_36
EB_PZ-144_041311
HAR-05_041311_01
RD-51B_041311_01
RD-51C_041311_01
RS-29_041311_01
RS-08_041311_01
HAR-21_041311_01
PZ-144_041311_01MS
PZ-144_041311_01MSD
HAR-05_041311_01MS
HAR-05_041311_01MSD
HAR-05_041311_01DUP
RS-08_041311_01MS
RS-08_041311_01MSD
PZ-144_041311_01DUP

Introduction

This data review covers 17 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 350.1 for Ammonia as Nitrogen, EPA Method 300.0 for Bromide, Chloride, Fluoride, Nitrate, Nitrite, Orthophosphate, and Sulfate, EPA SW 846 Method 9012A for Cyanide, EPA SW 846 Method 7196A for Hexavalent Chromium and Dissolved Hexavalent Chromium, EPA Method 314.0 for Perchlorate, EPA SW 846 Method 9040B for pH, and Standard Method 4500-S2-D for Sulfide.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

Raw data were not reviewed for this SDG. The review was based on QC data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
PZ-144_041311_01 PZ-144_041311_36 EB_PZ-144_041311 PZ-144_041311_01MS PZ-144_041311_01MSD PZ-144_041311_01DUP	Total hexavalent chromium Dissolved hexavalent chromium	29.75 hours	24 hours	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P
RS-08_041311_01	pH	48.50 hours	48 hours	J (all detects) UJ (all non-detects)	P

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks.

Sample EB_PZ-144_041311 was identified as an equipment blank. No contaminant concentrations were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_PZ-144_041311	4/13/11	Nitrate	0.19 mg/L	PZ-144_041311_01 PZ-144_041311_36

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No contaminant concentrations were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_041411_19	4/14/11	pH	5.81 units	PZ-144_041311_01 PZ-144_041311_36

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks.

V. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-14571-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

Samples PZ-144_041311_01 and PZ-144_041311_36 were identified as field duplicates. No contaminant concentrations were detected in any of the samples with the following exceptions:

Compound	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	PZ-144_041311_01	PZ-144_041311_36			
Fluoride	0.73	0.73	0 (≤35)	-	-
Chloride	4.4	4.4	0 (≤35)	-	-
Nitrate	21	21	0 (≤35)	-	-
Sulfate	26	26	0 (≤35)	-	-
Hexavalent chromium	0.011	0.0081	30 (≤35)	-	-
Dissolved hexavalent chromium	0.0040	0.0047	16 (≤35)	-	-

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-14571-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-14571-1	PZ-144_041311_01 PZ-144_041311_36 EB_PZ-144_041311	Total hexavalent chromium Dissolved hexavalent chromium	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-14571-1	RS-08_041311_01	pH	J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-14571-1	PZ-144_041311_01 PZ-144_041311_36 EB_PZ-144_041311 HAR-05_041311_01 RD-51B_041311_01 RD-51C_041311_01 RS-29_041311_01 RS-08_041311_01 HAR-21_041311_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-14571-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-14571-1**

No Sample Data Qualified in this SDG

LDC #: 25402A6
 SDG #: 280-14671-1
 Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5-10-11

Page: 1 of 1

Reviewer: MG

2nd Reviewer: *[Signature]*

350.1

METHOD: (Analyte) Ammonia-N (EPA Method 350.2), Bromide, Chloride, Fluoride, Nitrate, Nitrite, Orthophosphate, Sulfate (EPA Method 300.0), Cyanide (EPA SW846 Method 9012A), Hexavalent Chromium & Dissolved Hexavalent Chromium (EPA SW846 Method 7196A), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B), Sulfide (SM4500-S2-D)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: 4-13-11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IV.	Matrix Spike/Matrix Spike Duplicates	A	MS/MSD
V.	Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS/LCSD
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	SW	D = 1+2 D = 17+18
X.	Field blanks	SW	EB = 3, 19* MA

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

* = ND = No compounds detected
 R = Rinsate
 FB = Field blank

FB = FB - 041411-19 (SDG: 280-14655-1)
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:
 all water

1	PZ-144_041311_01	11	PZ-144_041311_01MSD	21	PZ-144_041311_01DUP	31	
2	PZ-144_041311_36	12	HAR-05_041311_01MS	22		32	
3	EB_PZ-144_041311	13	HAR-05_041311_01MSD	23		33	
4	HAR-05_041311_01	14	HAR-05_041311_01DUP	24		34	
5	RD-51B_041311_01	15	RS-08_041311_01MS	25		35	
6	RD-51C_041311_01	16	RS-08_041311_01MSD	26		36	
7	RS-29_041311_01	17	PZ-144_041311_01F MA	27		37	
8	RS-08_041311_01	18	PZ-144_041311_36F	28		38	
9	HAR-21_041311_01	19	EB-PZ-144_041311F	29		39	
10	PZ-144_041311_01MS	20	RS-29_041311_01F C	30	PBW	40	

Notes: _____

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)
 N/A Were field blanks identified in this SDG?
 N/A Were target analytes detected in the field blanks?
Blank units: mg/L Associated sample units: mg/L
Sampling date: 4/13/11 Soil factor applied: NA
Field blank type: (circle one) Field Blank / Rinsate / Other EB

Associated Samples: 1, 2 (>5x)

Analyte	Blank ID	Action Level	No Qual's	Sample Identification					
NO3	3	0.95							

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: Inorganics, EPA Method See Cover
 N N/A Were field blanks identified in this SDG?
 N N/A Were target analytes detected in the field blanks?
 Blank units: pH units Associated sample units: pH units
 Sampling date: 4/14/11 Soil factor applied: NA
 Field blank type: (circle one) Field Blank / Rinsate / Other:

Associated Samples: 1, 2 (Not analyzed for pH)

Analyte	Blank ID	Action Limit	Sample Identification				
	FB 041411_19	No Qual.					
pH	5.81						

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Inorganics, Method See Cover

Y N NA
Y N NA

Were field duplicate pairs identified in this SDG?
 Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤ 35)	
	1	2		
Fluoride	0.73	0.73	0	
Chloride	4.4	4.4	0	
Nitrate	21	21	0	
Sulfate	26	26	0	
Hexavalent Chromium	0.011	0.0081	30	

V:\FIELD DUPLICATES\FD_inorganic\25402A6.WPD

Analyte	Concentration (mg/L)		RPD (≤ 35)	
	17	18		
Hexavalent Chromium	0.0040U	0.0047	16	

V:\FIELD DUPLICATES\FD_inorganic\25402A6.WPD

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 13, 2011
LDC Report Date: May 13, 2011
Matrix: Water
Parameters: Diesel Range Organics
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14571-1

Sample Identification

PZ-144_041311_01
PZ-144_041311_36
EB_PZ-144_041311
HAR-05_041311_01
RD-51B_041311_01
RD-51C_041311_01
PZ-159_041311_01
EB_PZ-159_041311
RS-29_041311_01
RS-08_041311_01
HAR-21_041311_01

Introduction

This data review covers 11 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Oklahoma Department of Environmental Quality Method for Diesel Range Organics.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No diesel range organic contaminants were found in the method blanks.

Samples EB_PZ-144_041311 and EB_PZ-159_041311 were identified as equipment blanks. No diesel range organic contaminants were found in these blanks.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No diesel range organic contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14571-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples PZ-144_041311_01 and PZ-144_041311_36 were identified as field duplicates. No diesel range organics were detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Data Qualification Summary - SDG 280-14571-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14571-1	PZ-144_041311_01 PZ-144_041311_36 EB_PZ-144_041311 HAR-05_041311_01 RD-51B_041311_01 RD-51C_041311_01 PZ-159_041311_01 EB_PZ-159_041311 RS-29_041311_01 RS-08_041311_01 HAR-21_041311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Laboratory Blank Data Qualification Summary - SDG 280-14571-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Field Blank Data Qualification Summary - SDG 280-14571-1**

No Sample Data Qualified in this SDG

LDC #: 25402A8
 SDG #: 280-14571-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/11/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC Diesel Range Organics (Oklahoma Department of Environmental Quality)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/13/11</u>
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	<u>client spec</u>
VII.	Laboratory control samples	A	<u>LCS 1b</u>
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	ND	<u>D = 1, 7</u>
XIII.	Field blanks	ND	<u>EB = 3, 8</u> <u>FB = FB-041411-19</u> <u>(280-14655-1)</u>

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

WATER

1	PZ-144_041311_01	11	HAR-21_041311_01	21	<u>MB 280-62272/1-A</u>	31
2	PZ-144_041311_36	12		22	<u>MB 280-62450/1-A</u>	32
3	EB_PZ-144_041311	13		23		33
4	HAR-05_041311_01	14		24		34
5	RD-51B_041311_01	15		25		35
6	RD-51C_041311_01	16		26		36
7	PZ-159_041311_01	17		27		37
8	EB_PZ-159_041311	18		28		38
9	RS-29_041311_01	19		29		39
10	RS-08_041311_01	20		30		40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 13, 2011
LDC Report Date: May 13, 2011
Matrix: Water
Parameters: 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14571-1

Sample Identification

RS-08_041311_01
HAR-21_041311_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 504.1 for 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14571-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Data Qualification Summary -
 SDG 280-14571-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14571-1	RS-08_041311_01 HAR-21_041311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Laboratory Blank Data
 Qualification Summary - SDG 280-14571-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Field Blank Data Qualification
 Summary - SDG 280-14571-1**

No Sample Data Qualified in this SDG

LDC #: 25402A10

VALIDATION COMPLETENESS WORKSHEET

Date: 5/11/11

SDG #: 280-14571-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: VT
2nd Reviewer: A

METHOD: GC 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane (EPA Method 504.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/13/11
II	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	A	LCS 1D
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinstate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

WATER

1	RS-08_041311_01	11	MB 280-63153/A-A21	31
2	HAR-21_041311_01	12		32
3		13		33
4		14		34
5		15		35
6		16		36
7		17		37
8		18		38
9		19		39
10		20		40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 13, 2011

LDC Report Date: May 13, 2011

Matrix: Water

Parameters: Organophosphorus Pesticides

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14571-1

Sample Identification

RS-08_041311_01

HAR-21_041311_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8141A for Organophosphorus Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No organophosphorus pesticide contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Column	Surrogate	%R (Limits)	Compound	Flag	A or P
MB 280-62550/1-A	Column 1	Triphenyl Phosphate	155 (60-154)	All TCL compounds	J (all detects)	P
MB 280-62550/1-A	Column 2	Triphenyl Phosphate	161 (60-154)	All TCL compounds	J (all detects)	P

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14571-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Data Qualification Summary - SDG 280-14571-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14571-1	RS-08_041311_01 HAR-21_041311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Laboratory Blank Data Qualification Summary - SDG 280-14571-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Field Blank Data Qualification Summary - SDG 280-14571-1**

No Sample Data Qualified in this SDG

METHOD: GC Organophosphorus Pesticides (EPA SW 846 Method 8141A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/13/11</u>
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	SW	
VI.	Matrix spike/Matrix spike duplicates	N	Client spec
VII.	Laboratory control samples	A	icc 1/3
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinseate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

water

1	RS-08_041311_01	11	MB 280-62550/1A	21		31	
2	HAR-21_041311_01	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 13, 2011

LDC Report Date: May 13, 2011

Matrix: Water

Parameters: Hexachlorophene

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14571-1

Sample Identification

RS-08_041311_01

HAR-21_041311_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8321A for Hexachlorophene.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No hexachlorophene was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14571-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Data Qualification Summary - SDG 280-14571-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14571-1	RS-08_041311_01 HAR-21_041311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Laboratory Blank Data Qualification Summary - SDG 280-14571-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Field Blank Data Qualification Summary - SDG 280-14571-1**

No Sample Data Qualified in this SDG

LDC #: 25402A44
 SDG #: 280-14571-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/11/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: LC/MS Hexachlorophene (EPA SW 846 Method 8321A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/12/11</u>
II.	GC/MS Instrument performance check	U	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	<u>Client Spec</u>
VIII.	Laboratory control samples	A	<u>LCS</u>
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

1	RS-08_041311_01	11	<u>MB 280-6225/16</u>	21		31	
2	HAR-21_041311_01	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 13, 2011

LDC Report Date: May 13, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14571-1/A1D140430

Sample Identification

PZ-144_041311_01
PZ-144_041311_36
EB_PZ-144_041311
HAR-05_041311_01
RD-51B_041311_01
RD-51C_041311_01
RS-29_041311_01
RS-08_041311_01
HAR-21_041311_01

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

Sample EB_PZ-144_041311 was identified as an equipment blank. No formaldehyde was found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No formaldehyde was found in this blank.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14571-1/A1D140430	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples PZ-144_041311_01 and PZ-144_041311_36 were identified as field duplicates. No formaldehyde was detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
Formaldehyde - Data Qualification Summary - SDG 280-14571-1/A1D140430**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14432-1/ A1D090421	PZ-144_041311_01 PZ-144_041311_36 EB_PZ-144_041311 HAR-05_041311_01 RD-51B_041311_01 RD-51C_041311_01 RS-29_041311_01 RS-08_041311_01 HAR-21_041311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-14571-1/A1D140430**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Formaldehyde - Field Blank Data Qualification Summary - SDG 280-14571-1/A1D140430**

No Sample Data Qualified in this SDG

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/13/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	A	KS
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	ND	D = 1 ✓
XIII.	Field blanks	ND	EB = 3 FB = FB_041411-19 (280-14655-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinstate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	PZ-144_041311_01	11	1164160-MB	21	31
2	PZ-144_041311_36	12		22	32
3	EB_PZ-144_041311	13		23	33
4	HAR-05_041311_01	14		24	34
5	RD-51B_041311_01	15		25	35
6	RD-51C_041311_01	16		26	36
7	RS-29_041311_01	17		27	37
8	RS-08_041311_01	18		28	38
9	HAR-21_041311_01	19		29	39
10		20		30	40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 13, 2011

LDC Report Date: May 13, 2011

Matrix: Water

Parameters: Hydrazines

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14571-1

Sample Identification

HAR-05_041311_01
RD-51B_041311_01
RD-51C_041311_01
PZ-159_041311_01
EB_PZ-159_041311
RS-08_041311_01
HAR-21_041311_01

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DVWC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazine contaminants were found in the method blanks.

Sample EB_PZ-159_041311 was identified as an equipment blank. No hydrazine contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No hydrazine contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14571-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-14571-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14571-1	HAR-05_041311_01 RD-51B_041311_01 RD-51C_041311_01 PZ-159_041311_01 EB_PZ-159_041311 RS-08_041311_01 HAR-21_041311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-14571-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-14571-1**

No Sample Data Qualified in this SDG

LDC #: 25402A76

VALIDATION COMPLETENESS WORKSHEET

Date: 5/11/11

SDG #: 280-14571-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JVG

2nd Reviewer:

METHOD: HPLC Hydrazines (Method DVWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/13/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	LCS/b
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	EB = 5 FR = FB-041411-19

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinstate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

(Per 280-14655-1)

Validated Samples:

Water

1	HAR-05_041311_01	11	MB 280-62655/25	21		31	
2	RD-51B_041311_01	12		22		32	
3	RD-51C_041311_01	13		23		33	
4	PZ-159_041311_01	14		24		34	
5	EB_PZ-159_041311	15		25		35	
6	RS-08_041311_01	16		26		36	
7	HAR-21_041311_01	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter		
1, 3	W	<u>Hydrazine</u>	<u>1,1-Dimethylhydrazine</u>	<u>Monomethyl Hydrazine</u>
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
4, 5		<u>Hydrazine</u>	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
6, 7		Hydrazine	<u>1,1-Dimethylhydrazine</u>	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine

Comments: _____



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 13, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed is the final validation report for the fraction listed below. This SDG was received on May 5, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25410:

<u>SDG #</u>	<u>Fraction</u>
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IUD0921	Phthalates
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The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 6, 2011

LDC Report Date: May 10, 2011

Matrix: Water

Parameters: Phthalates

Validation Level: Level IV

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUD0921

Sample Identification

SH-11_040611_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Phthalates.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all compounds.

Average relative response factors (RRF) for all compounds were within method and validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs) and 25.0% for all other compounds.

All of the continuing calibration relative response factors (RRF) were within method and validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No phthalate contaminants were found in the method blanks.

Sample EB_SH-11_040611 (from SDG 280-14316-1) and EB_SH-04_040711 (from SDG 280-14379-1) were identified as equipment blanks. No phthalate contaminants were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_SH-11_040611	4/6/11	Bis(2-ethylhexyl)phthalate	0.77 ug/L	SH-11_040611_03

Samples FB_SH-11_040611_19 (from SDG 280-14316-1) and FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No phthalate contaminants were found in these blanks with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_SH-11_040611_19	4/6/11	Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	0.64 ug/L 1.8 ug/L	SH-11_040611_03

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD0921	All compounds reported below the RL.	J (all detects)	A

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Samples SH-11_040611_03 and SH-11_040611_01 (from SDG 280-14316-1) were identified as split samples. No phthalates were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	SH-11_040611_03	SH-11_040611_03			
Diethylphthalate	0.46	9.6U	182 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 2nd Qtr, 2011
Phthalates - Data Qualification Summary - SDG IUD0921**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD0921	SH-11_040611_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Phthalates - Laboratory Blank Data Qualification Summary - SDG IUD0921**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Phthalates - Field Blank Data Qualification Summary - SDG IUD0921**

No Sample Data Qualified in this SDG

LDC #: 25410A2a

VALIDATION COMPLETENESS WORKSHEET

Date: 5/11/11

SDG #: IUD0921

Level IV

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JK

2nd Reviewer: [Signature]

METHOD: GC/MS Phalatesth (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/06/11
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	% RSD ≤ 30%
IV.	Continuing calibration/ICV	A	CV/ICV ≤ 25%
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	
XII.	Compound quantitation/CRQLs	A	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	A	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / split	SW	S = 1, SH-11-040611-01 (from 28014316)
XVII.	Field blanks	SW	EB = EB-SH-11-040611 FB = FB-SH-11-040611-19

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

*ND = No compounds detected
 R = Rinsate
 FB = Field blank

*FB = FB-041411-19 (from 280-14655-1) (from 28014316)
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

* EB-SH-04-040711 (280-14379-1)

1	SH-11_040611_03	11	11D1401- BLK1	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Method: Semivolatiles (EPA SW 846 Method 8270C)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	/			
Cooler temperature criteria was met.	/			
II. GC/MS Instrument performance check				
Were the DFTPP performance results reviewed and found to be within the specified criteria?	/			
Were all samples analyzed within the 12 hour clock criteria?	/			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	/			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	/			
Was a curve fit used for evaluation?		/		
Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990 ?			/	
Were all percent relative standard deviations (%RSD) $\leq 30\%$ and relative response factors (RRF) > 0.05 ?	/			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	/			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	/			
Were all percent differences (%D) $\leq 25\%$ and relative response factors (RRF) ≥ 0.05 ?	/			
V. Blanks				
Was a method blank associated with every sample in this SDG?	/			
Was a method blank analyzed for each matrix and concentration?	/			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.			/	
VI. Surrogate spikes				
Were all surrogate %R within QC limits?	/			
If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?		/	/	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			/	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		/		
Was a MS/MSD analyzed every 20 samples of each matrix?		/		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			/	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	/			

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per extraction batch?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were the performance evaluation (PE) samples within the acceptance limits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
X. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were retention times within + 30 seconds from the associated calibration standard?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
XI. Target compound identification				
Were relative retention times (RRT's) within + 0.06 RRT units of the standard?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were chromatogram peaks verified and accounted for?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Were relative intensities of the major ions within $\pm 20\%$ between the sample and the reference spectra?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
XIV. System performance				
System performance was found to be acceptable.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Target compounds were detected in the field duplicates.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
XVII. Field blanks				
Field blanks were identified in this SDG.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Target compounds were detected in the field blanks.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes: * = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

VALIDATION FINDINGS WORKSHEET

Field Blanks

METHOD: GC/MS BNA (EPA SW 846 Method 8270)
 Y/N N/A Were field blanks identified in this SDG?
 Y/N N/A Were target compounds detected in the field blanks?
Blank units: ND / L **Associated sample units:** W5 / L
Sampling date: 4/06/11
Field blank type: (circle one) Field Blank / Rinsate / Other: FB Associated Samples: 1 (ND)

Compound	Blank ID	Rinsate / Other	Sample Identification		
	<u>4/06/11</u>	<u>→</u>			
<u>EEB</u>	<u>0.77</u>	<u>0.64</u>			
<u>FFF</u>		<u>1.8</u>			

Blank units: _____ **Associated sample units:** _____
Sampling date: _____ **Field blank type:** (circle one) Field Blank / Rinsate / Other: _____ **Associated Samples:** _____

Compound	Blank ID	Sample Identification		

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Split

METHOD: GC MS SVOA (EPA SW 846 Method 8270C)

Y/N/NA Were field split pairs identified in this SDG?

Y/N/NA Were target analytes detected in the field split pairs?

Compound	Concentration (ug/L)		(≤35)	Qualifications
	SH-11_040611_01	SH-11_040611_03	RPD	(Parent only)
Diethyl phthalate	0.46	9.6U	182	NQ (<5RL)

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: GC/MS SVOA (EPA SW 846 Method 8270C)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$$RRF = (A_x)(C_{is}) / (A_{is})(C_x)$$

average RRF = sum of the RRFs/number of standards
 %RSD = $100 * (S/X)$

A_x = Area of Compound
 C_x = Concentration of compound,
 S = Standard deviation of the RRFs,

A_{is} = Area of associated internal standard
 C_{is} = Concentration of internal standard
 X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (50 std)	Recalculated RRF (50 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	3/5/2011	Dimethyl phthalate (ANT)	1.520	1.520	1.447	1.447	5.55	5.55
	MS65		Di-n-butyl phthalate (PHN)	1.399	1.399	1.345	1.345	5.49	5.48
			Bis(2-ethylhexyl)phthalate (CRY)	0.894	0.894	0.861	0.861	4.04	4.03

Inc IS/Cpd	Area cpd	Area IS
40/50	439244	231248
40/50	802472	458768
40/50	450431	403170

Conc	Dimethyl phtha	Di-n-butyl phtha	Bis(2-ethex) ph
2.00	1.273	1.205	0.797
5.00	1.442	1.372	0.857
10.00	1.469	1.389	0.889
50.00	1.520	1.399	0.894
80.00	1.487	1.382	0.866
120.00	1.463	1.320	0.862
160.00	1.475		
X =	1.447	1.345	0.861
S =	0.080	0.074	0.035

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

METHOD: GC/MS SVOA (EPA SW 846 Method 8270C)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = $100 * (\text{ave. RRF} - \text{RRF}) / \text{ave. RRF}$
 $\text{RRF} = (\text{Ax}) / (\text{Cis}) / (\text{Ais}) / (\text{Cx})$

Where:

ave. RRF = initial calibration average RRF

Ax = Area of compound

Cx = Concentration of compound

RRF = continuing calibration RRF

Ais = Area of associated internal standard

Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (IS)	Average RRF (Initial RRF)	Reported (CC RRF)	Recalculated (CC RRF)	Reported %D	Recalculated %D
1	SSTD050A	04/14/11	Dimethyl phthalate (ANT)	1.447	1.508	1.508	4.2	4.2
	MS65		Di-n-butyl phthalate (PHN)	1.345	1.397	1.397	3.9	3.9
			Bis(2-ethylhexyl)phthalate (CRY)	0.861	0.924	0.924	7.3	7.3

Compound (IS)	Cis/Cx	Ax	Ais
Dimethyl phthalate (ANT)	40/50	452187	239848
Di-n-butyl phthalate (PHN)	40/50	830530	475682
Bis(2-ethylhexyl)phthalate (CRY)	40/50	485156	420152

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270C)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: $SF/SS * 100$

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: # 1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5	50	37.33	75	75	0
2-Fluorobiphenyl	↓	38.29	77	77	↓
Terphenyl-d14	↓	26.70	53	53	↓
Phenol-d5	100	57.91	58	58	↓
2-Fluorophenol	↓	51.80	52	52	↓
2,4,6-Tribromophenol	✓	71.71	72	72	↓
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: [Signature]

2nd Reviewer: [Signature]

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = $100 * (SC/SA)$ Where: SSC = Spike concentration
 SA = Spike added

RPD = $100 * \frac{LCSC - LCSDC}{LCSC + LCSDC}$ LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: 11 D 1401 - BSI / BSD1

Compound	Spike Added (ug/L)		Spike Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
	Phenol									
N-Nitroso-di-n-propylamine										
4-Chloro-3-methylphenol										
Acenaphthene										
Pentachlorophenol										
Pyrene										
EEE	100	100	92.3	98.7	92	92	99	99	7	7
FFF	↓	↓	94.8	100	95	95	100	100	5	5

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET Sample Calculation Verification

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Y N N/A
Y N N/A

Were all reported results recalculated and verified for all level IV samples?

Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

$$\text{Concentration} = \frac{(A_x)(I_s)(V_i)(DF)(2.0)}{(A_s)(RRF)(V_o)(V_i)(\%S)}$$

- A_x = Area of the characteristic ion (EICP) for the compound to be measured
- A_s = Area of the characteristic ion (EICP) for the specific internal standard
- I_s = Amount of internal standard added in nanograms (ng)
- V_o = Volume or weight of sample extract in milliliters (ml) or grams (g).
- V_i = Volume of extract injected in microliters (ul)
- V_t = Volume of the concentrated extract in microliters (ul)
- Df = Dilution Factor.
- %S = Percent solids, applicable to soil and solid matrices only.
- 2.0 = Factor of 2 to account for GPC cleanup

Example:

Sample I.D. _____ MD

$$\text{Conc.} = \left(\frac{\quad}{\quad} \right) \left(\frac{\quad}{\quad} \right) \left(\frac{\quad}{\quad} \right) \left(\frac{\quad}{\quad} \right) \left(\frac{\quad}{\quad} \right)$$

=

#	Sample ID	Compound	Reported Concentration ()	Calculated Concentration ()	Qualification



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 19, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

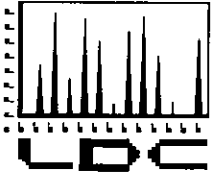
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 6, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25421:

<u>SDG #</u>	<u>Fraction</u>
280-14519-1/IUD1539 280-14655-1/IUD1667	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Polynuclear Aromatic Hydrocarbons, Pentachlorophenol, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, Ethylene Dibromide, Formaldehyde, Hexachloroethane, Organophosphorus Pesticides, Hydrazine
280-14758-1	Volatiles, 1,4-Dioxane, Semivolatiles, N-Nitrosodimethylamine, Wet Chemistry, Diesel Range Organics, Formaldehyde, Hydrazine

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004



- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Pei Geng'.

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV LDC #25421 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane 8260B-S		1,2,3-TCP (524.2)		SVOA (8270C)		PAHs (8270C -SIM)		PCP (8270C -LL)		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (OK-DEQ)		EDB (504.1)		Formaldehyde (8315)		Hexachlorophene (8321A)		OPHS Pest. (8141A)		Herbs (8151A)	
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-14519-1/ IUD1539	05/06/11	05/27/11	13	0	12	0	6	0	9	0	2	0	4	0	9	0	4	0	8	0	5	0	9	0	8	0	5	0	7	0	4	0	4	0	4	0
B	280-14655-1/ IUD1667	05/06/11	05/27/11	10	0	10	0	9	0	6	0	-	0	5	0	5	0	5	0	5	0	6	0	6	0	6	0	9	0	6	0	5	0	5	0	5	0
C	280-14758-1	05/06/11	05/27/11	8	0	8	0	-	-	6	0	-	-	6	0	-	-	6	0	-	-	-	-	-	-	5	0	-	5	0	-	-	-	-	-	-	-
Total				31	0	30	0	15	0	21	0	2	0	9	0	20	0	9	0	13	0	11	0	15	0	19	0	14	0	18	0	9	0	9	0	9	0

Client Select IV LDC #25421 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydra-zine (DVWC)		Alk. (2320B)		NH ₃ -N (350.1)		Cl SO ₄ (300.0)		Br NO ₂ O-PO ₄		F NO ₂ (300.0)		Cr(VI) (7196A)		Diss. Cr(VI) (7196A)		CN- (9012A)		Cond. (2510B)		ClO ₂ (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)		S= (4500 -S2-D)			
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-14519-1/ A1D130522	05/06/11	05/27/11	4	0	2	0	4	0	3	0	5	0	5	0	2	0	7	0	2	0	2	0	4	0	3	0	5	0	5	0	3	0	3	0	3	0	4	0
B	280-14655-1/ A1D150429	05/06/11	05/27/11	6	0	3	0	3	0	3	0	6	0	3	0	-	-	6	0	1	0	1	0	5	0	3	0	6	0	6	0	3	0	3	0	3	0	5	0
C	280-14758-1/ A1D190605	05/06/11	05/27/11	6	0	1	0	1	0	-	-	6	0	-	-	-	-	6	0	-	-	-	-	-	-	-	6	0	6	0	-	-	-	-	-	-	-	-	
Total				16	0	6	0	8	0	6	0	17	0	8	0	2	0	19	0	3	0	3	0	9	0	6	0	17	0	17	0	6	0	6	0	6	0	9	158

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 12, 2011
LDC Report Date: May 16, 2011
Matrix: Water
Parameters: Volatiles
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14519-1

Sample Identification

PZ-141_041211_01
EB_PZ-141_041211
TB_PZ-141_041211
SH-07_041211_01
TB_SH-07_041211
PZ-155_041211_01
EB_PZ-155_041211
TB_PZ-155_041211
HAR-27_041211_01
HAR-28_041211_01
TB_HAR-28_041211
HAR-07_041211_01
HAR-07_041211_36
PZ-141_041211_01MS
PZ-141_041211_01MSD
SH-07_041211_01MS
SH-07_041211_01MSD

Introduction

This data review covers 17 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-62873/5	4/18/11	Methylene chloride	0.324 ug/L	PZ-141_041211_01 EB_PZ-141_041211 TB_PZ-141_041211 PZ-155_041211_01 EB_PZ-155_041211 TB_PZ-155_041211 TB_HAR-28_041211 HAR-07_041211_01 HAR-07_041211_36

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks.

Samples TB_PZ-141_041211, TB_SH-07_041211, TB_PZ-155_041211 and TB_HAR-28_041211 were identified as trip blanks. No volatile contaminants were found in these blanks with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
TB_PZ-141_041211	4/12/11	Acetone	4.3 ug/L	PZ-141_041211_01 EB_PZ-141_041211
TB_HAR-28_041211	4/12/11	Acetone	4.2 ug/L	HAR-27_041211_01 HAR-28_041211_01 HAR-07_041211_01 HAR-07_041211_36

Samples EB_SH-04_040711 (from SDG 280-14379-1), EB_PZ-141_041211, and EB_PZ-155_041211 were identified as equipment blanks. No volatile contaminants were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-155_041211	4/12/11	Acetone	2.9 ug/L	PZ-155_041211_01

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No volatile contaminants were found in this blank.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-155_041211_01	Acetone	3.6 ug/L	10U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
TB_SH-07_041211	Dibromofluoromethane 1,2-Dichloroethane-d4	85 (86-118) 77 (80-120)	All TCL compounds	J (all detects) UJ (all non-detects)	P

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
PZ-141_041211_01MS/MSD (PZ-141_041211_01)	cis-1,2-Dichloroethene	133 (75-120)	131 (75-120)	-	J (all detects)	A
SH-07_041211_01MS/MSD (SH-07_041211_01)	Carbon tetrachloride	79 (80-120)	-	-	J (all detects) UJ (all non-detects)	A

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14519-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-07_041211_01 and HAR-07_041211_36 were identified as field duplicates. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-07_041211_01	HAR-07_041211_36			
1,1-Dichloroethene	2.7	2.7	0 (≤35)	-	-
Vinyl chloride	17	17	0 (≤35)	-	-
cis-1,2 -Dichloroethene	740	840	13 (≤35)	-	-
Trichloroethene	2300	2600	12 (≤35)	-	-

**Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-14519-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14519-1	TB_SH-07_041211	All TCL compounds	J (all detects) UJ (all non-detects)	P	Surrogate spikes (%R) (S)
280-14519-1	PZ-141_041211_01	cis-1,2-Dichloroethene	J (all detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
280-14519-1	SH-07_041211_01	Carbon tetrachloride	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
280-14519-1	PZ-141_041211_01 EB_PZ-141_041211 TB_PZ-141_041211 SH-07_041211_01 TB_SH-07_041211 PZ-155_041211_01 EB_PZ-155_041211 TB_PZ-155_041211 HAR-27_041211_01 HAR-28_041211_01 TB_HAR-28_041211 HAR-07_041211_01 HAR-07_041211_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-14519-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-14519-1**

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-14519-1	PZ-155_041211_01	Acetone	10U ug/L	A	F

LDC #: 25421A1a
 SDG #: 280-14519-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/12/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

Validation Area		Comments	
I.	Technical holding times	A	Sampling dates: 4/12/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	A	LCS 1b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	b = 12, 13
XVII.	Field blanks	SW	EB = *2, 7 TB = 3, 5, 8, 11 FB = FB_041411_19 EB = EB_SH-04-040711 (280-14379-1) (280-14655-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 *ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: Water

1	PZ-141_041211_01	11	TB_HAR-28_041211	21	MB 280-62131/4	31	(FPPT, 6666, II)
2	EB_PZ-141_041211	12	HAR-07_041211_01	22	MB 280-62873/5	32	
3	TB_PZ-141_041211	13	HAR-07_041211_36	23	MB 280-62969/6	33	
4	SH-07_041211_01	14	PZ-141_041211_01MS	24	MB 280-63054/6	34	
5	TB_SH-07_041211	15	PZ-141_041211_01MSD	25	MB 280-62876/6	35	
6	PZ-155_041211_01	16	SH-07_041211_01MS	26		36	
7	EB_PZ-155_041211	17	SH-07_041211_01MSD	27		37	
8	TB_PZ-155_041211	18		28		38	
9	HAR-27_041211_01	19		29		39	
10	HAR-28_041211_01	20		30		40	

8260 SW Water = 1-3, 6-8
 VOCs = 4, 5
 Add IX + A+A = 9, 10
 VOCs, Add IX + IMA, AA = 11-13

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC. 1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl chloride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethane, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

VALIDATION FINDINGS WORKSHEET
Surrogate Spikes

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y(N) N/A Were all surrogate %R within QC limits?
Y(N) N/A If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R out of outside of criteria?

#	Date	Sample ID	Surrogate	%Recovery (Limits)	Qualifications
		5	bFM	85 (86-118)	J MS / P (S)
			DCE	77 (80-120)	
				()	
				()	
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				()	

QC Limits (Soil)
 85-115
 85-120
 60-120
 75-125

QC Limits (Water)
 85-120
 75-120
 70-120
 85-115

VALIDATION FINDINGS WORKSHEET

Matrix Spike/Matrix Spike Duplicates

METHOD : GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

N N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	<u>14 / 15</u>	<u>BBQ</u>	<u>133 (75-120)</u>	<u>131 (75-120)</u>	()	<u>1</u>	<u>JOB / A (Q)</u>
		<u>S</u>	<u>611 (78-120)</u>	<u>570 (78-120)</u>	()	<u>↓</u>	<u>* No qual</u>
			()	()	()		
	<u>16 / 17</u>	<u>O</u>	<u>79 (80-120)</u>	()	()	<u>4</u>	<u>J / MS / A (Q)</u>
			()	()	()		<u>* Parent conc > 4X</u>
			()	()	()		<u>Spike amt</u>
			()	()	()		
			()	()	()		
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Compound	QC Limits (Soil)	RPD (Soil)	QC Limits (Water)	RPD (Water)
H. 1,1-Dichloroethene	59-172%	< 22%	61-145%	< 14%
S. Trichloroethene	62-137%	< 24%	71-120%	< 14%
V. Benzene	66-142%	< 21%	76-127%	< 11%
CC. Toluene	59-139%	< 21%	76-125%	< 13%
DD. Chlorobenzene	60-133%	< 21%	75-130%	< 13%

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GC MS Volatiles (EPA SW 846 Method 8260B)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(\leq 35%) RPD	Qualifications (Parent only)
	12	13		
1,1-Dichloroethene	2.7	2.7	0	
Vinyl chloride	17	17	0	
cis-1,2 -Dichloroethene	740	840	13	
Trichloroethene	2300	2600	12	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 12, 2011

LDC Report Date: May 16, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14519-1

Sample Identification

PZ-141_041211_01
EB_PZ-141_041211
TB_PZ-141_041211
SH-07_041211_01
TB_SH-07_041211
PZ-155_041211_01
EB_PZ-155_041211
HAR-27_041211_01
HAR-28_041211_01
TB_HAR-28_041211
HAR-07_041211_01
HAR-07_041211_36
PZ-141_041211_01MS
PZ-141_041211_01MSD

Introduction

This data review covers 14 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-dioxane was found in the method blanks.

Samples TB_PZ-141_041211, TB_SH-07_041211, and TB_HAR-28_041211 were identified as trip blanks. No 1,4-dioxane was found in these blanks.

Samples EB_SH-04_040711 (from SDG 280-14379-1), EB_PZ-141_041211, and EB_PZ-155_041211 were identified as equipment blanks. No 1,4-dioxane was found in these blanks.

Sample FB_041411_19 (280-14655-1) was identified as a field blank. No 1,4-dioxane was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14519-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-07_041211_01 and HAR-07_041211_36 were identified as field duplicates. No 1,4-dioxane was detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-14519-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14519-1	PZ-141_041211_01 EB_PZ-141_041211 TB_PZ-141_041211 SH-07_041211_01 TB_SH-07_041211 PZ-155_041211_01 EB_PZ-155_041211 HAR-27_041211_01 HAR-28_041211_01 TB_HAR-28_041211 HAR-07_041211_01 HAR-07_041211_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-14519-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-14519-1**

No Sample Data Qualified in this SDG

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/12/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS 1D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	ND	D = 11, 12
XVII.	Field blanks	MD	EB = 2, 7 TB = 3, 5 1D FB = FB_041911-19

Note: A = Acceptable ND = No compounds detected EB = EB-SH-04-090711 (280-14374-1) (280-14655-1)
 N = Not provided/applicable D = Duplicate
 R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: Water

1	PZ-141_041211_01	11	HAR-07_041211_01	D	21	MB 280-62871/15	31
2	EB_PZ-141_041211	12	HAR-07_041211_36	D	22	MB 280-63047/C	32
3	TB_PZ-141_041211	13	PZ-141_041211_01MS		23		33
4	SH-07_041211_01	14	PZ-141_041211_01MSD		24		34
5	TB_SH-07_041211	15			25		35
6	PZ-155_041211_01	16			26		36
7	EB_PZ-155_041211	17			27		37
8	HAR-27_041211_01	18			28		38
9	HAR-28_041211_01	19			29		39
10	TB_HAR-28_041211	20			30		40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 12, 2011

LDC Report Date: May 17, 2011

Matrix: Water

Parameters: 1,2,3-Trichloropropane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14519-1/IUD1539

Sample Identification

SH-07_041211_01
HAR-27_041211_01
HAR-28_041211_01
TB_HAR-28_041211
HAR-07_041211_01
HAR-07_041211_36
SH-07_041211_01DUP
HAR-07_041211_01DUP

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-trichloropropane was found in the method blanks.

Sample TB_HAR-28_041211 was identified as a trip blank. No 1,2,3-trichloropropane was found in this blank.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No 1,2,3-trichloropropane was found in this blank.

Sample FB_041411_19 (280-14655-1) was identified as a field blank. No 1,2,3-trichloropropane was found in this blank.

VI. Surrogate Spikes

Surrogate spikes were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Raw data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-145191/IUD1539	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-07_041211_01 and HAR-07_041211_36 were identified as field duplicates. No 1,2,3-trichloropropane was detected in any of the samples.

Boeing SSFL GW 2nd Qtr, 2011

1,2,3-Trichloropropane - Data Qualification Summary - SDG 280-14519-1/IUD1539

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14519-1/IUD1539	SH-07_041211_01 HAR-27_041211_01 HAR-28_041211_01 TB_HAR-28_041211 HAR-07_041211_01 HAR-07_041211_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011

1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG 280-14519-1/IUD1539

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011

1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG 280-14519-1/IUD1539

No Sample Data Qualified in this SDG

METHOD: GC/MS 1,2,3-Trichloropropane (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/12/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates / Lab Dup	N/A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	ND	D = 5, 6
XVII.	Field blanks	ND	TB = 4 FB = FB_041411_19 (280-14655-1) EB = EB_SH-04-040711 (280-14579-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	SH-07_041211_01	11	11 D 2206 - Blk1	21	31
2	HAR-27_041211_01	12	11 D 2775 - Blk1	22	32
3	HAR-28_041211_01	13		23	33
4	TB_HAR-28_041211	14		24	34
5	HAR-07_041211_01	15		25	35
6	HAR-07_041211_36	16		26	36
7	SH-07_041211_01DUP	17		27	37
8	HAR-07_041211_01DUP	18		28	38
9		19		29	39
10		20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 12, 2011

LDC Report Date: May 16, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14519-1

Sample Identification

PZ-141_041211_01
EB_PZ-141_041211
SH-07_041211_01
PZ-155_041211_01
EB_PZ-155_041211
HAR-27_041211_01
HAR-28_041211_01
HAR-07_041211_01
HAR-07_041211_36
PZ-141_041211_01MS
PZ-141_041211_01MSD

Introduction

This data review covers 11 water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

Samples EB_PZ-141_041211, EB_PZ-155_041211, and EB_SH-04_040711 (from SDG 280-14379-1) were identified as equipment blanks. No semivolatile contaminants were found in these blanks.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No semivolatile contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
PZ-141_041211_01MS/MSD (PZ-141_041211_01)	Nitrobenzene	-	142 (58-120)	-	J (all detects)	A
	2-Nitroaniline	-	-	35 (≤30)	J (all detects)	
	3,3'-Dichlorobenzidine	-	-	33 (≤30)	J (all detects)	

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
PZ-141_041211_01MS/MSD (PZ-141_041211_01)	3-Nitroaniline	-	43 (49-120)	63 (≤35)	J (all detects) UJ (all non-detects)	A
	4-Nitroaniline	-	13 (39-120)	132 (≤34)		

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14519-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-07_041211_01 and HAR-07_041211_36 were identified as field duplicates. No semivolatiles were detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-14519-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14519-1	PZ-141_041211_01	Nitrobenzene	J (all detects)	A	Matrix spike/Matrix spike duplicate (%R)(Q)
280-14519-1	PZ-141_041211_01	2-Nitroaniline 3,3-Dichlorobenzidine	J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicate (RPD)(Q)
280-14519-1	PZ-141_041211_01	3-Nitroaniline 4-Nitroaniline	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R)(RPD) (Q)
280-14519-1	PZ-141_041211_01 EB_PZ-141_041211 SH-07_041211_01 PZ-155_041211_01 EB_PZ-155_041211 HAR-27_041211_01 HAR-28_041211_01 HAR-07_041211_01 HAR-07_041211_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-14519-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-14519-1**

No Sample Data Qualified in this SDG

LDC #: 25421A2a
 SDG #: 280-14519-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/12/11
 Page: 1 of 1
 Reviewer: Me
 2nd Reviewer: [Signature]

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4 / 12 / 11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	A	LCS / D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	MD	D = 8, 9
XVII.	Field blanks	MD	EB = 2, 5 EB_SH-04-040711 (280-14374-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: Water

1	PZ-141_041211_01	11	PZ-141_041211_01MSD	21	MB 280-62258/1-A1	
2	EB_PZ-141_041211	12		22		32
3	SH-07_041211_01	13		23		33
4	PZ-155_041211_01	14		24		34
5	EB_PZ-155_041211	15		25		35
6	HAR-27_041211_01	16		26		36
7	HAR-28_041211_01	17		27		37
8	HAR-07_041211_01	D 18		28		38
9	HAR-07_041211_36	D 19		29		39
10	PZ-141_041211_01MS	20		30		40

8270 Full = 1, 2, 4, 5
 A + NB = 3
 APP IX = 6 - 9

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes: * = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	Date	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		10 A	L	()	142 (58-120)	()		J acts / A (6)
			BB	()	43 (40-120)	35 (30)		J acts / A
			FF	()	13 (39-120)	63 (35)		J / WT / A
			00	()		132 (34)		
			BBB	()		33 (30)		J acts / A
				()				
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Compound	QC Limits (Soil)	RPD (Soil)	QC Limits (Water)	RPD (Water)	Compound	QC Limits (Soil)	RPD (Soil)	QC Limits (Water)	RPD (Water)
A. Phenol	26-90%	< 35%	12-110%	< 42%	Acenaphthene	31-137%	< 19%	46-118%	< 31%
C. 2-Chlorophenol	25-102%	< 50%	27-123%	< 40%	4-Nitrophenol	11-114%	< 50%	10-80%	< 50%
E. 1,4-Dichlorobenzene	28-104%	< 27%	36-97%	< 28%	2,4-Dinitrotoluene	28-89%	< 47%	24-96%	< 38%
J. N-Nitroso-di-n-propylamine	41-126%	< 38%	41-116%	< 38%	Pentachlorophenol	17-109%	< 47%	9-103%	< 50%
R. 1,2,4-Trichlorobenzene	38-107%	< 23%	39-98%	< 28%	Pyrene	35-142%	< 36%	26-127%	< 31%
V. 4-Chloro-3-methylphenol	26-103%	< 33%	23-97%	< 42%					

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 12, 2011
LDC Report Date: May 17, 2011
Matrix: Water
Parameters: N-Nitrosodimethylamine
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14519-1

Sample Identification

PZ-141_041211_01
EB_PZ-141_041211
SH-07_041211_01
PZ-155_041211_01
EB_PZ-155_041211
HAR-27_041211_01
HAR-28_041211_01
HAR-07_041211_01
HAR-07_041211_36
PZ-141_041211_01MS
PZ-141_041211_01MSD

Introduction

This data review covers 11 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-nitrosodimethylamine was found in the method blanks.

Sample EB_PZ-141_041211, EB_PZ-155_041211, and EB_SH-04_040711 (from SDG 280-14379-1) were identified as equipment blanks. No N-nitrosodimethylamine was found in these blanks.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No N-nitrosodimethylamine was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14519-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-07_041211_01 and HAR-07_041211_36 and samples HAR-28_041211_01 and HAR-28_041211_36 (from SDG 280-14519-1) were identified as field duplicates. No N-nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-07_041211_01	HAR-07_041211_36			
N-nitrosodimethylamine	0.038	0.039	3 (≤35)	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-28_041211_01	HAR-28_041211_36			
N-nitrosodimethylamine	0.010	0.011	10 (≤35)	-	-

**Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-14519-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14519-1	PZ-141_041211_01 EB_PZ-141_041211 SH-07_041211_01 PZ-155_041211_01 EB_PZ-155_041211 HAR-27_041211_01 HAR-28_041211_01 HAR-07_041211_01 HAR-07_041211_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary – SDG 280-14519-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-14519-1**

No Sample Data Qualified in this SDG

LDC #: 25421A2b

VALIDATION COMPLETENESS WORKSHEET

Date: 5/12/11

SDG #: 280-14519-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JVG
2nd Reviewer: [Signature]

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/12/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCs / b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D ₁ = 8, 9 D ₂ = 7 + HAR-28-041211-36 (280-14519-2)
XVII.	Field blanks	ND	EB = 2, 5 EB-SH-04-046711 (280-14379-1) FB = FB-041411-19 (280-14655-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	PZ-141_041211_01	11	PZ-141_041211_01MSD	21	MB280-62133/-A	31
2	EB_PZ-141_041211	12		22	MB280-62517/-A	32
3	SH-07_041211_01	13		23		33
4	PZ-155_041211_01	14		24		34
5	EB_PZ-155_041211	15		25		35
6	HAR-27_041211_01	16		26		36
7	HAR-28_041211_01	17		27		37
8	HAR-07_041211_01	18		28		38
9	HAR-07_041211_36	19		29		39
10	PZ-141_041211_01MS	20		30		40

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GC MS NDMA (EPA Method 1625)_M

~~Y~~ ~~N~~ ~~NA~~ Were field duplicate pairs identified in this SDG?
 ~~Y~~ ~~N~~ ~~NA~~ Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent Only)
	HAR-07_041211_01	HAR-07_041211_36		
NDMA	0.038	0.039	3	

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent Only)
	HAR-28_041211_01	HAR-28_041211_36		
NDMA	0.010	0.011	10	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 12, 2011

LDC Report Date: May 16, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14519-1

Sample Identification

PZ-141_041211_01
EB_PZ-141_041211
PZ-141_041211_01MS
PZ-141_041211_01MSD

Introduction

This data review covers 4 water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C using Selected Ion Monitoring (SIM) for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-62312/1-A	4/14/11	Di-n-octylphthalate	0.109 ug/L	All samples in SDG 280-14519-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
PZ-141_041211_01	Di-n-octylphthalate	0.15 ug/L	9.9U ug/L
EB_PZ-141_041211	Di-n-octylphthalate	0.40 ug/L	10U ug/L

Sample EB_PZ-141_041211 was identified as an equipment blank. No semivolatile contaminants were found in this blank with the following exceptions:

Equipment BlankID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-141_041211	4/12/11	Benzo(a)anthracene Chrysene Bis(2-ethylhexyl)phthalate Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	0.0047 ug/L 0.0036 ug/L 0.40 ug/L 0.022 ug/L 0.030 ug/L 0.40 ug/L	PZ-141_041211_01

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No semivolatle contaminants were found in this blank.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-141_041211_01	Benzo(a)anthracene Chrysene Bis(2-ethylhexyl)phthalate Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	0.0051 ug/L 0.0039 ug/L 0.18 ug/L 0.038 ug/L 0.11 ug/L 0.15 ug/L	9.9U ug/L 9.9U ug/L 9.9U ug/L 9.9U ug/L 9.9U ug/L 9.9U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14519-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-14519-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14519-1	PZ-141_041211_01 EB_PZ-141_041211	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-14519-1**

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-14519-1	PZ-141_041211_01	Di-n-octylphthalate	9.9U ug/L	A	B
280-14519-1	EB_PZ-141_041211	Di-n-octylphthalate	10U ug/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-14519-1**

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-14519-1	PZ-141_041211_01	Benzo(a)anthracene Chrysene Bis(2-ethylhexyl)phthalate Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	9.9U ug/L 9.9U ug/L 9.9U ug/L 9.9U ug/L 9.9U ug/L 9.9U ug/L	A	F

METHOD: GC/MS ^{Semi-volatiles} Polynuclear Aromatic Hydrocarbons (EPA SW846 Method 8270C-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/12/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS 1p
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	EB = 2 FB = FB-041411-19 (280-14519-1)

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: Water

1	PZ-141_041211_01	11	MB 280-62312/1-A	21	31
2	EB_PZ-141_041211	12		22	32
3	PZ-141_041211_01MS	13		23	33
4	PZ-141_041211_01MSD	14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis(2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes:* = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

LDC #: 25421 A2c
SDG #: See Com

VALIDATION FINDINGS WORKSHEET

Field Blanks

Page: 1 of 1
Reviewer: [Signature]
2nd Reviewer: [Signature]

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

Y N N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L / L Associated sample units: ug/L

Sampling date: 4/12/11

Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: 1 Code: F

Compound	Blank ID	Sample Identification
	<u>2</u>	
<u>CCC</u>	<u>0.0047</u>	<u>0.0057 / 9.94</u>
<u>DDD</u>	<u>0.0036</u>	<u>0.0039 /</u>
<u>EDE</u>	<u>0.40</u>	<u>0.18 /</u>
<u>XX</u>	<u>0.022</u>	<u>0.038 /</u>
<u>LL</u>	<u>0.030</u>	<u>0.11 /</u>
<u>FFF</u>	<u>0.40</u>	<u>0.15 / ✓</u>

Blank units: _____ Associated sample units: _____

Sampling date: _____

Field blank type: (circle one) Field Blank / Rinsate / Other: _____

Associated Samples: _____

Compound	Blank ID	Sample Identification

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "N". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 12, 2011

LDC Report Date: May 16, 2011

Matrix: Water

Parameters: Pentachlorophenol

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14519-1

Sample Identification

HAR-27_041211_01
HAR-28_041211_01
HAR-07_041211_01
HAR-07_041211_36

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Pentachlorophenol.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No pentachlorophenol was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14519-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-07_041211_01 and HAR-07_041211_36 were identified as field duplicates. No pentachlorophenol was detected in any of the samples

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Data Qualification Summary - SDG 280-14519-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14519-1	HAR-27_041211_01 HAR-28_041211_01 HAR-07_041211_01 HAR-07_041211_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Laboratory Blank Data Qualification Summary - SDG 280-14519-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Field Blank Data Qualification Summary - SDG 280-14519-1**

No Sample Data Qualified in this SDG

LDC #: 25421A2d

VALIDATION COMPLETENESS WORKSHEET

Date: 5/12/11

SDG #: 280-14519-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: Me

2nd Reviewer: C

METHOD: GC/MS Pentachlorophenol (EPA SW846 Method 8270C-~~EE~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/12/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS 1p
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	ND	D = 3, 4
XVII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	HAR-27_041211_01	11	MPB 280-62533/-A	21	31
2	HAR-28_041211_01	12		22	32
3	HAR-07_041211_01	b		23	33
4	HAR-07_041211_36	b		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 12, 2011

LDC Report Date: May 17, 2011

Matrix: Water

Parameters: Chlorinated Pesticides

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14519-1

Sample Identification

HAR-27_041211_01
HAR-28_041211_01
HAR-07_041211_01
HAR-07_041211_36

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Column	Surrogate	%R (Limits)	Compound	Flag	A or P
MB 280-63052/1-A	Col 1	Tetrachloro-m-xylene	48 (60-140)	All TCL compounds	J (all detects) UJ (all non-detects)	P
MB 280-63052/1-A	Col 2	Tetrachloro-m-xylene	57 (60-140)	All TCL compounds	J (all detects) UJ (all non-detects)	P

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

All target compound identifications were within validation criteria.

XIII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14519-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

Samples HAR-07_041211_01 and HAR-07_041211_36 were identified as field duplicates. No chlorinated pesticides were detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Data Qualification Summary - SDG 280-14519-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14519-1	HAR-27_041211_01 HAR-28_041211_01 HAR-07_041211_01 HAR-07_041211_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 280-14519-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Field Blank Data Qualification Summary - SDG 280-14519-1**

No Sample Data Qualified in this SDG

LDC #: 25421A3a

VALIDATION COMPLETENESS WORKSHEET

Date: 5/12/11

SDG #: 280-14519-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: *ML*

2nd Reviewer: *A*

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/12/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCs 1b
IX.	Regional quality assurance and quality control	N	
X.	Florisl cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation and reported CRQLs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates	MD	D = 3.4
XVI.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: *Water*

1	HAR-27_041211_01	11	MB 280-62121/1-A	21	31
2	HAR-28_041211_01	12	MB 280-63052/1-A	22	32
3	HAR-07_041211_01	13		23	33
4	HAR-07_041211_36	14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 12, 2011

LDC Report Date: May 17, 2011

Matrix: Water

Parameters: Polychlorinated Biphenyls

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14519-1

Sample Identification

PZ-141_041211_01
EB_PZ-141_041211
PZ-155_041211_01
EB_PZ-155_041211
HAR-27_041211_01
HAR-28_041211_01
HAR-07_041211_01
HAR-07_041211_36
PZ-141_041211_01MS
PZ-141_041211_01MSD

Introduction

This data review covers 10 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyls were found in the method blanks.

Samples EB_PZ-141_041211 and EB_PZ-155_041211 were identified as equipment blanks. No polychlorinated biphenyls were found in these blanks.

Sample FB_041411_19 (280-14655-1) was identified as a field blank. No polychlorinated biphenyls were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14519-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-07_041211_01 and HAR-07_041211_36 were identified as field duplicates. No polychlorinated biphenyls were detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Data Qualification Summary - SDG 280-14519-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14519-1	PZ-141_041211_01 EB_PZ-141_041211 PZ-155_041211_01 EB_PZ-155_041211 HAR-27_041211_01 HAR-28_041211_01 HAR-07_041211_01 HAR-07_041211_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 280-14519-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG 280-14519-1**

No Sample Data Qualified in this SDG

LDC #: 25421A3b
 SDG #: 280-14519-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/12/11
 Page: 1 of 1
 Reviewer: JVC
 2nd Reviewer: [Signature]

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

Validation Area			Comments
I.	Technical holding times	A	Sampling dates: 4/12/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS 1/D
IX.	Regional quality assurance and quality control	N	
X.	Florisil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation and reported CRQLs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates	ND	D = 8, 9
XVI.	Field blanks	ND	EB = 2, 5 FB = FB_041411-19 (280-14655-1)

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: *Water*

1	PZ-141_041211_01	11	PZ-141_041211_01MSD	21	MB 280-62121/A-A	31	
2	EB_PZ-141_041211	12		22		32	
3	SH-07_041211_01	13		23		33	
4	PZ-155_041211_01	14		24		34	
5	EB_PZ-155_041211	15		25		35	
6	HAR-27_041211_01	16		26		36	
7	HAR-28_041211_01	17		27		37	
8	HAR-07_041211_01	18		28		38	
9	HAR-07_041211_36	19		29		39	
10	PZ-141_041211_01MS	20		30		40	

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 12, 2011

LDC Report Date: May 12, 2011

Matrix: Water

Parameters: Metals

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14519-1

Sample Identification

SH-07_041211_01
HAR-27_041211_01
HAR-28_041211_01
HAR-07_041211_01
HAR-07_041211_36
PZ-141_041211_01F
EB_PZ-141_041211F
SH-07_041211_01F
PZ-155_041211_01F
EB_PZ-155_041211F
HAR-27_041211_01F
HAR-28_041211_01F
HAR-07_041211_01F
HAR-07_041211_36F
SH-07_041211_01MS
SH-07_041211_01MSD
HAR-27_041211_01MS
HAR-27_041211_01MSD
PZ-141_041211_01FMS
PZ-141_041211_01FMSD

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 20 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B, 6020, and 7000 for Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Thallium	0.0000238 mg/L	PZ-141_041211_01F EB_PZ-141_041211F PZ-155_041211_01F EB_PZ-155_041211F HAR-27_041211_01F HAR-28_041211_01F HAR-07_041211_01F HAR-07_041211_36F
PB (prep blank)	Tin	0.000348 mg/L	HAR-27_041211_01F HAR-28_041211_01F HAR-07_041211_01F HAR-07_041211_36F
PB (prep blank)	Thallium Tin	0.0000315 mg/L 0.000346 mg/L	HAR-27_041211_01 HAR-28_041211_01 HAR-07_041211_01 HAR-07_041211_36

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
HAR-27_041211_01	Thallium Tin	0.000024 mg/L 0.00032 mg/L	0.000024U mg/L 0.00032U mg/L
HAR-28_041211_01	Thallium Tin	0.000026 mg/L 0.00033 mg/L	0.000026U mg/L 0.00033U mg/L
HAR-07_041211_01	Tin	0.00020 mg/L	0.00020U mg/L
PZ-141_041211_01F	Thallium	0.000055 mg/L	0.000055U mg/L
EB_PZ-141_041211F	Thallium	0.000022 mg/L	0.000022U mg/L
HAR-27_041211_01F	Tin	0.00018 mg/L	0.00018U mg/L

Samples EB_PZ-141_041211F, EB_PZ-155_041211F, EB_SH-04_040711 (from SDG 280-14379-1) and EB_SH-04_040711F (from SDG 280-14379-1) were identified as equipment blanks. No metal contaminants were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_PZ-141_041211F	4/12/11	Sodium Thallium	0.18 mg/L 0.000022 mg/L	PZ-141_041211_01F
EB_PZ-155_041211F	4/12/11	Sodium Cobalt	0.15 mg/L 0.000011 mg/L	PZ-155_041211_01F
EB_SH-04_041211	4/7/11	Tin Mercury	0.00028 mg/L 0.000037 mg/L	SH-07_041211_01
EB_SH-04_041211F	4/7/11	Silver Tin Mercury	0.000018 mg/L 0.00030 mg/L 0.000034 mg/L	SH-07_041211_01F

Samples FB_041411_19 and FB_041411_19F (both from SDG 280-14655-1) were identified as field blanks. No metal contaminants were found in these blanks with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_041411_19	4/14/11	Iron	0.030 mg/L	SH-07_041211_01

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_041411_19F	4/14/11	Iron Manganese Sodium Tin	0.082 mg/L 0.0012 mg/L 0.29 mg/L 0.00017 mg/L	PZ-141_041211_01F SH-07_041211_01F PZ-155_041211_01F

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
SH-07_041211_01	Iron	0.040 mg/L	0.040U mg/L
PZ-141_041211_01F	Thallium	0.000055 mg/L	0.000055U mg/L
SH-07_041211_01F	Iron Manganese	0.052 mg/L 0.0026 mg/L	0.052U mg/L 0.0026U mg/L

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution data were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-14519-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

Samples HAR-07_041211_01 and HAR-07_041211_36 and samples HAR-07_041211_01F and HAR-07_041211_36F were identified as field duplicates. No metals were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	HAR-07_041211_01	HAR-07_041211_36			
Antimony	0.000084	0.000070U	18 (≤35)	-	-
Arsenic	0.00039	0.00037	5 (≤35)	-	-
Barium	0.017	0.017	0 (≤35)	-	-
Cobalt	0.00015	0.00012	22 (≤35)	-	-
Copper	0.00061	0.00065	6 (≤35)	-	-
Nickel	0.0019	0.0018	5 (≤35)	-	-
Tin	0.00020	0.00017U	16 (≤35)	-	-
Vanadium	0.00027	0.00028	4 (≤35)	-	-
Zinc	0.032	0.032	0 (≤35)	-	-

Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	HAR-07_041211_01F	HAR-07_041211_36F			
Antimony	0.000070U	0.000071	1 (≤35)	-	-
Arsenic	0.00038	0.00036	5 (≤35)	-	-
Barium	0.016	0.016	0 (≤35)	-	-
Cobalt	0.000095	0.00011	15 (≤35)	-	-
Nickel	0.0014	0.0015	7 (≤35)	-	-
Vanadium	0.00022	0.00021	5 (≤35)	-	-
Zinc	0.033	0.035	6 (≤35)	-	-

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Data Qualification Summary - SDG 280-14519-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-14519-1	SH-07_041211_01 HAR-27_041211_01 HAR-28_041211_01 HAR-07_041211_01 HAR-07_041211_36 PZ-141_041211_01F EB_PZ-141_041211F SH-07_041211_01F PZ-155_041211_01F EB_PZ-155_041211F HAR-27_041211_01F HAR-28_041211_01F HAR-07_041211_01F HAR-07_041211_36F	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Laboratory Blank Data Qualification Summary - SDG 280-14519-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-14519-1	HAR-27_041211_01	Thallium Tin	0.000024U mg/L 0.00032U mg/L	A	B
280-14519-1	HAR-28_041211_01	Thallium Tin	0.000026U mg/L 0.00033U mg/L	A	B
280-14519-1	HAR-07_041211_01	Tin	0.00020U mg/L	A	B
280-14519-1	PZ-141_041211_01F	Thallium	0.000055U mg/L	A	B
280-14519-1	EB_PZ-141_041211F	Thallium	0.000022U mg/L	A	B
280-14519-1	HAR-27_041211_01F	Tin	0.00018U mg/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Field Blank Data Qualification Summary - SDG 280-14519-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-14519-1	SH-07_041211_01	Iron	0.040U mg/L	A	F
280-14519-1	PZ-141_041211_01F	Thallium	0.000055U mg/L	A	F

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-14519-1	SH-07_041211_01F	Iron Manganese	0.052U mg/L 0.0026U mg/L	A	F

LDC #: 25421A4

VALIDATION COMPLETENESS WORKSHEET

Date: 5-10-11

SDG #: 280-14519-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: MG

2nd Reviewer: [Signature]

METHOD: Metals (EPA SW 846 Method 6010B/6020/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4-12-11
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis <i>9mL</i>	SW+A	MS / MSD
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	A	LCS / LCSD
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	not utilized
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	EB = EB-SH-04-040711 } SDG: 280-14379-1
XIII.	Overall Assessment of Data	A	EB = EB-SH-04-040711 F)
XIV.	Field Duplicates	SW	D = 4+5, D = 13+14 <i>9mL</i>
XV.	Field Blanks	SW	EB = 7, 10, EB-SH-04-040711 (SDG: 280-14379-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

FB = FB-041411-19 (SDG: 280-14655-1)

FB = FB-041411-19F (SDG: 280-14655-1)

Validated Samples:
oil water

1	SH-07_041211_01	11	HAR-27_041211_01F	21		31	
2	HAR-27_041211_01	12	HAR-28_041211_01F	22		32	
3	HAR-28_041211_01	13	HAR-07_041211_01F	23		33	
4	HAR-07_041211_01	14	HAR-07_041211_36F	24		34	
5	HAR-07_041211_36	15	SH-07_041211_01MS	25		35	
6	PZ-141_041211_01F	16	SH-07_041211_01MSD	26		36	
7	EB_PZ-141_041211F	17	HAR-27_041211_01MS	27		37	
8	SH-07_041211_01F	18	HAR-27_041211_01MSD	28		38	
9	PZ-155_041211_01F	19	PZ-141_041211_01FMS	29	PBW1	39	
10	EB_PZ-155_041211F	20	PZ-141_041211_01FMSD	30	PBW2	40	

Notes: Samples appended with "F" were analyzed for dissolved metals

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000) Soil preparation factor applied: NA

Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 6, 7, 9-14 Qual: U (B)

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	6	7				
Tl		0.0000238		0.000119	0.000055	0.000022				

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000) Soil preparation factor applied: NA

Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 11-14 Qual: U (B)

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	11					
Sn		0.000348		0.00174	0.00018					

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000) Soil preparation factor applied: NA

Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 2-5 Qual: U (B)

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	2	3	4			
Tl		0.0000315		0.0001575	0.000024	0.000026				
Sn		0.000346		0.00173	0.00032	0.00033	0.00020			

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note: a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

N/A Were field blanks identified in this SDG?
 N/A Were target analytes detected in the field blanks?

Blank units: mg/L Associated sample units: mg/L

Sampling date: 4/12/11 Soil factor applied NA

Field blank type: (circle one) Field Blank / Rinsate (Other) EB

Associated Samples: 6 Qual: U (F)

Analyte	Blank ID	Action Level	Sample Identification			
	7	6				
Na	0.18	0.9				
Tl	0.000022	0.00011	0.000055			

Blank units: mg/L Associated sample units: mg/L

Sampling date: 4/12/11 Soil factor applied NA

Field blank type: (circle one) Field Blank / Rinsate (Other) EB

Associated Samples: 9 (>5x)

Analyte	Blank ID	Action Level	Sample Identification			
	10	No Qual's.				
Na	0.15	0.75				
Co	0.000011	0.000055				

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

N N/A Were field blanks identified in this SDG?
 N N/A Were target analytes detected in the field blanks?

Blank units: mg/L Associated sample units: mg/L

Sampling date: 4/14/11 Soil factor applied: NA

Field blank type: (circle one) Field Blank / Rinsate / Other: _____

Associated Samples: 1 Qual: U (F)

Analyte	Blank ID	Action Level	1	0.040	Sample Identification				
Fe	FB_041411_19	0.15							

Blank units: mg/L Associated sample units: mg/L

Sampling date: 4/14/11 Soil factor applied: NA

Field blank type: (circle one) Field Blank / Rinsate / Other: _____

Associated Samples: 6, 8, 9 Qual: U (F)

Analyte	Blank ID	Action Level	8	0.052	0.0026	Sample Identification				
Fe	FB_041411_19F	0.41								
Mn	0.0012	0.006								
Na	0.29	1.45								
Sn	0.00017	0.00085								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

Were field blanks identified in this SDG? Y/N N/A

Were target analytes detected in the field blanks? Y/N N/A

Blank units: mg/L Associated sample units: mg/L

Soil factor applied: NA

Sampling date: 4/7/11 Field Blank / Rinsate / Other: EB

Qual: U (F) Associated Samples: 1 (Not analyzed for Sn, Hg)

Analyte	Blank ID	Action Level	No Qual's	Sample Identification			
Sn	EB_SH-04_040711	0.0014					
Hg	0.000037	0.000185					

Blank units: mg/L Associated sample units: mg/L

Soil factor applied: NA

Field blank type: (circle one) Field Blank / Rinsate / Other: EB

Qual: U (F) Associated Samples: 8 (Not analyzed for Ag, Sn, Hg)

Analyte	Blank ID	Action Level	No Qual's	Sample Identification			
Ag	EB_SH-04_040711F	0.00009					
Sn	0.000030	0.0015					
Hg	0.000034	0.00017					

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:

Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: Metals (EPA Method 6010B/7000)

- ~~Y~~ ~~N~~ ~~NA~~ Were field duplicate pairs identified in this SDG?
- ~~Y~~ ~~N~~ ~~NA~~ Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤ 35)
	4	5	
Antimony	0.000084	0.000070U	18
Arsenic	0.00039	0.00037	5
Barium	0.017	0.017	0
Cobalt	0.00015	0.00012	22
Copper	0.00061	0.00065	6
Nickel	0.0019	0.0018	5
Tin	0.00020	0.00017U	16
Vanadium	0.00027	0.00028	4
Zinc	0.032	0.032	0

V:\FIELD DUPLICATES\FD_inorganic\25421A4.WPD

Analyte	Concentration (mg/L)		RPD (≤ 35)
	13	14	
Antimony	0.000070U	0.000071	1
Arsenic	0.00038	0.00036	5
Barium	0.016	0.016	0
Cobalt	0.000095	0.00011	15
Nickel	0.0014	0.0015	7
Vanadium	0.00022	0.00021	5
Zinc	0.033	0.035	6

V:\FIELD DUPLICATES\FD_inorganic\25421A4.WPD

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 12, 2011

LDC Report Date: May 13, 2011

Matrix: Water

Parameters: Herbicides

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14519-1

Sample Identification

HAR-27_041211_01
HAR-28_041211_01
HAR-07_041211_01
HAR-07_041211_36

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8151A for Herbicides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No herbicide contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/(Matrix Spike) Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14519-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples HAR-07_041211_01 and HAR-07_041211_36 were identified as field duplicates. No herbicides were detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Data Qualification Summary - SDG 280-14519-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14519-1	HAR-27_041211_01 HAR-28_041211_01 HAR-07_041211_01 HAR-07_041211_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Laboratory Blank Data Qualification Summary - SDG 280-14519-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Field Blank Data Qualification Summary - SDG 280-14519-1**

No Sample Data Qualified in this SDG

LDC #: 25421A5
 SDG #: 280-14519-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/12/11
 Page: 1 of 1
 Reviewer: NG
 2nd Reviewer: A

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4 / 12 / 11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	A	LCS / D
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	ND	D = 3, 4
XIII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1 ⁺	HAR-27_041211_01	11	MB 280- 62178/A-A	21		31	
2 ⁻	HAR-28_041211_01	12		22		32	
3 ⁻	HAR-07_041211_01	13		23		33	
4 ⁻	HAR-07_041211_36	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: 2,4,5-T, 2,4-d, Dioxin, 2,4,5-TP

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 12, 2011
LDC Report Date: May 12, 2011
Matrix: Water
Parameters: Wet Chemistry
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14519-1

Sample Identification

PZ-141_041211_01
EB_PZ-141_041211
SH-07_041211_01
HAR-27_041211_01
HAR-28_041211_01
HAR-07_041211_01
HAR-07_041211_36
PZ-141_041211_01MS
PZ-141_041211_01MSD
PZ-141_041211_01DUP
SH-07_041211_01DUP
HAR-28_041211_01DUP
HAR-07_041211_01MS
HAR-07_041211_01MSD
HAR-07_041211_01DUP

Introduction

This data review covers 15 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Standard Method 2320B for Alkalinity, EPA Method 350.1 for Ammonia as Nitrogen, EPA Method 300.0 for Bromide, Chloride, Fluoride, Nitrate, Nitrite, Orthophosphate, and Sulfate, Standard Method 2510B for Conductivity, EPA SW 846 Method 9012A for Cyanide, EPA SW 846 Method 7196A for Hexavalent Chromium and Dissolved Hexavalent Chromium, EPA Method 314.0 for Perchlorate, EPA SW 846 Method 9040B for pH, Standard Method 4500-S2-D for Sulfide, Standard Method 2540C for Total Dissolved Solids, and EPA Method 180.1 for Turbidity.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

Raw data were not reviewed for this SDG. The review was based on QC data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
PZ-141_041211_01 EB_PZ-141_041211 PZ-141_041211_01MS PZ-141_041211_01MSD	Hexavalent chromium Dissolved hexavalent chromium	31.75 hours	24 hours	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks.

Samples EB_PZ-141_041211 and EB_SH-04_040711 (from SDG 280-14379-1) were identified as equipment blanks. No contaminant concentrations were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_SH-04_040711	4/7/11	Fluoride Nitrate as N Ammonia as N Cyanide pH	0.11 mg/L 0.19 mg/L 0.091 mg/L 0.0020 mg/L 5.83 units	SH-07_041211_01

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No contaminant concentrations were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_041411_19	4/14/11	pH	5.81 units	PZ-141_041211_01 SH-07_041211_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
SH-07_041211_01	Fluoride Ammonia as N	0.48 mg/L 0.074 mg/L	0.48U mg/L 0.074U mg/L

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-14519-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

Samples HAR-07_041211_01 and HAR-07_041211_36 were identified as field duplicates. No contaminant concentrations were detected in any of the samples with the following exceptions:

Compound	Concentration		RPD (Limits)	Flag	A or P
	HAR-07_041211_01	HAR-07_041211_36			
Fluoride	0.35 mg/L	0.35 mg/L	0 (≤35)	-	-
Ammonia as N	0.076 mg/L	0.096 mg/L	23 (≤35)	-	-
pH	6.86 units	6.82 units	1 (≤35)	-	-

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-14519-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-14519-1	PZ-141_041211_01 EB_PZ-141_041211	Hexavalent chromium Dissolved hexavalent chromium	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-14519-1	PZ-141_041211_01 EB_PZ-141_041211 SH-07_041211_01 HAR-27_041211_01 HAR-28_041211_01 HAR-07_041211_01 HAR-07_041211_36	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-14519-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-14519-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-14519-1	SH-07_041211_01	Fluoride Ammonia as N	0.48U mg/L 0.074U mg/L	A	F

LDC #: 25421A6
 SDG #: 280-14519-1
 Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

9M4

Date: 5-11-11
 Page: 1 of 1
 Reviewer: MG
 2nd Reviewer: [Signature]

350.1

METHOD: (Analyte) Alkalinity (SM2320B), Ammonia-N (EPA Method 350.2), Bromide, Chloride, Fluoride, Nitrate, Nitrite, Orthophosphate, Sulfate (EPA Method 300.0), Conductivity (SM2510B), Cyanide (EPA SW846 Method 9012A), Hexavalent Chromium & Dissolved Hexavalent Chromium (EPA SW846 Method 7196A), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B), Sulfide (SM4500-S2-D), TDS (SM2440C), Turbidity (EPA Method 180.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

TDS (SM 2540C)

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: 4-12-11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/MSD
V	Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS/LCSD
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	SW	D=6+7
X.	Field blanks	SW	EB=2*, 2B-SH-04-040711(280-14379-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

* = ND = No compounds detected
 R = Rinsate
 FB = Field blank

FB = FB-041411-19 (SDG: 280-14655-1)
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:
 all water

~~FB = *FB-041411-19F (SDG: 280-14655-1)~~

1	PZ-141_041211_01	11	SH-07_041211_01DUP	21		31	
2	EB_PZ-141_041211	12	HAR-28_041211_01DUP	22		32	
3	SH-07_041211_01	13	HAR-07_041211_01MS	23		33	
4	HAR-27_041211_01	14	HAR-07_041211_01MSD	24		34	
5	HAR-28_041211_01	15	HAR-07_041211_01DUP	25		35	
6	HAR-07_041211_01	16	PZ-141-041211-01F	26		36	
7	HAR-07_041211_36	17	EB_PZ-141_041211F	27		37	
8	PZ-141_041211_01MS	18	PZ-141_041211_01MSF	28		38	
9	PZ-141_041211_01MSD	19	PZ-141_041211_01MSDF	29		39	
10	PZ-141_041211_01DUP	20	PZ-141_041211-01DUPF	30	PBW	40	

Notes: _____

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1, 2	W	pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN ⁻ NH ₃ TKN TOC CR ⁶⁺ ClO ₄ (Br) <u>Asy</u> <u>cut</u>
16, 17		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN ⁻ NH ₃ TKN TOC CR ⁶⁺ ClO ₄
3		(pH) TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN ⁻ NH ₃ TKN TOC CR ⁶⁺ ClO ₄ Turb Cond
4, 5		(pH) TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN ⁻ NH ₃ TKN TOC CR ⁶⁺ ClO ₄ Turb Cond S
6, 7		(pH) TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN ⁻ NH ₃ TKN TOC CR ⁶⁺ ClO ₄ S
QC 8, 9		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN ⁻ NH ₃ TKN TOC CR ⁶⁺ ClO ₄ (Br) <u>Asy</u>
10		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN ⁻ NH ₃ TKN TOC CR ⁶⁺ ClO ₄ (Br) <u>Asy</u>
11		(pH) TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN ⁻ NH ₃ TKN TOC CR ⁶⁺ ClO ₄ Turb Cond
12		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN ⁻ NH ₃ TKN TOC CR ⁶⁺ ClO ₄ Cond
13-15		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN ⁻ NH ₃ TKN TOC CR ⁶⁺ ClO ₄
18-20		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN ⁻ NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN ⁻ NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN ⁻ NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN ⁻ NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN ⁻ NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN ⁻ NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN ⁻ NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN ⁻ NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN ⁻ NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN ⁻ NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN ⁻ NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN ⁻ NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN ⁻ NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN ⁻ NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN ⁻ NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN ⁻ NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN ⁻ NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN ⁻ NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN ⁻ NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN ⁻ NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN ⁻ NH ₃ TKN TOC CR ⁶⁺ ClO ₄

Comments: _____

VALIDATION FINDINGS WORKSHEET

Field Blanks

METHOD: Inorganics, EPA Method See Cover
 N N/A Were field blanks identified in this SDG?
 N N/A Were target analytes detected in the field blanks?
Blank units: mg/L **Associated sample units:** mg/L
Sampling date: 4/7/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate Other **EB**

Qual: U (F) Associated Samples: 3 (Not analyzed for CN)

Analyte	Blank ID	Action Limit	Sample Identification								
	EB_SH-04_040711										
F	0.11	0.55									
NO3	0.19	0.95									
NH3-N	0.091	0.455									
CN	0.0020	0.01									
pH (pH units)	5.83										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field DuplicatesInorganics, Method See Cover Y N NA

Were field duplicate pairs identified in this SDG?

 Y N NA

Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤ 35)	
	6	7		
Fluoride	0.35	0.35	0	
Ammonia as N	0.076	0.096	23	
pH (pH units)	6.86	6.82	1	

V:\FIELD DUPLICATES\FD_inorganic\25421A6.WPD

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 12, 2011
LDC Report Date: May 13, 2011
Matrix: Water
Parameters: Diesel Range Organics
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14519-1

Sample Identification

PZ-141_041211_01
EB_PZ-141_041211
PZ-155_041211_01
EB_PZ-155_041211
HAR-27_041211_01
HAR-28_041211_01
HAR-07_041211_01
HAR-07_041211_36
PZ-141_041211_01MS
PZ-141_041211_01MSD

Introduction

This data review covers 10 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Diesel Range Organics.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No diesel range organic contaminants were found in the method blanks.

Samples EB_SH-04_040711 (from SDG 280-14379-1) and EB_PZ-141_041211 and EB_PZ-155_041211 were identified as equipment blanks. No diesel range organic contaminants were found in these blanks.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No diesel range organic contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
PZ-141_041211_01MS/MSD (PZ-141_041211_01)	Diesel range organics (C15-C20) Diesel range organics (C21-C30)	- 116 (75-115)	132 (69-115) 132 (75-115)	- -	J (all detects) J (all detects)	A

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14519-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples HAR-07_041211_01 and HAR-07_041211_36 were identified as field duplicates. No diesel range organics were detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Data Qualification Summary - SDG 280-14519-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14519-1	PZ-141_041211_01	Diesel range organics (C15-C20) Diesel range organics (C21-C30)	J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
280-14519-1	PZ-141_041211_01 EB_PZ-141_041211 PZ-155_041211_01 EB_PZ-155_041211 HAR-27_041211_01 HAR-28_041211_01 HAR-07_041211_01 HAR-07_041211_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Laboratory Blank Data Qualification Summary - SDG 280-14519-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Field Blank Data Qualification Summary - SDG 280-14519-1**

No Sample Data Qualified in this SDG

LDC #: 25421A8
 SDG #: 280-14519-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/12/11
 Page: 1 of 1
 Reviewer: *JLB*
 2nd Reviewer: *[Signature]*

8015 B

METHOD: GC Diesel Range Organics (~~Oklahoma Department of Environmental Quality~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/12/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	SW	
VII.	Laboratory control samples	A	LCS 1/b
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	ND	b = 8, 9
XIII.	Field blanks	MD	EB = 2, 5, EB = SH-04_040711 (280-14379-1) FB = FB_041411-19 (280-14655-1)

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: *Water*

1	PZ-141_041211_01	11	PZ-141_041211_01MSD	21	MB 280-G22721-A	31
2	EB_PZ-141_041211	12		22		32
3	SM-07_041211_01	13		23		33
4	PZ-155_041211_01	14		24		34
5	EB_PZ-155_041211	15		25		35
6	HAR-27_041211_01	16		26		36
7	HAR-28_041211_01	17		27		37
8	HAR-07_041211_01	18		28		38
9	HAR-07_041211_36	19		29		39
10	PZ-141_041211_01MS	20		30		40

Notes: _____

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

METHOD: GC HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG?
- N N/A Was an MS/MSD analyzed every 20 samples for each matrix or whenever a sample extraction was performed?
- Y (N) N/A Were the MS/MSD percent recoveries (%R) and relative percent differences (RPD) within QC limits?

#	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	10 / 11	G5 - C20	() (75-115)	132 (69-115)	()		J ats/A (6)
		C21- C30	116 ()	132 (75-115) ()	()	↓	
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**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 12, 2011
LDC Report Date: May 13, 2011
Matrix: Water
Parameters: 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14519-1

Sample Identification

HAR-27_041211_01
HAR-28_041211_01
TB_HAR-28_041211
HAR-07_041211_01
HAR-07_041211_36

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 504.1 for 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in the method blanks.

Sample TB_HAR-28_041211 was identified as a trip blank. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14519-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples HAR-07_041211_01 and HAR-07_041211_36 were identified as field duplicates. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Data Qualification Summary -
 SDG 280-14519-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14519-1	HAR-27_041211_01 HAR-28_041211_01 TB_HAR-28_041211 HAR-07_041211_01 HAR-07_041211_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Laboratory Blank Data
 Qualification Summary - SDG 280-14519-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Field Blank Data Qualification
 Summary - SDG 280-14519-1**

No Sample Data Qualified in this SDG

LDC #: 25421A10

VALIDATION COMPLETENESS WORKSHEET

Date: 5/12/11

SDG #: 280-14519-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: NL

2nd Reviewer: A

METHOD: GC 1,2-Dibromomethane & 1,2-Dibromo-3-chloropropane (EPA Method 504.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4 / 12 / 11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	LES 1b
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	ND	D = 4, 5
XIII.	Field blanks	ND	TB = 3

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: water

1	HAR-27_041211_01	11	MB 280-63153/A-A	21	31	
2	HAR-28_041211_01	12		22	32	
3	TB_HAR-28_041211	13		23	33	
4	HAR-07_041211_01	14	D	24	34	
5	HAR-07_041211_36	15	D	25	35	
6		16		26	36	
7		17		27	37	
8		18		28	38	
9		19		29	39	
10		20		30	40	

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 12, 2011

LDC Report Date: May 17, 2011

Matrix: Water

Parameters: Organophosphorus Pesticides

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14519-1

Sample Identification

HAR-27_041211_01
HAR-28_041211_01
HAR-07_041211_01
HAR-07_041211_36

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8141A for Organophosphorus Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No organophosphorus pesticide contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Column	Surrogate	%R (Limits)	Compound	Flag	A or P
MB 280-62550/1-A	Column 1	Triphenyl Phosphate	155 (60-154)	All TCL compounds	J (all detects)	P
MB 280-62550/1-A	Column 2	Triphenyl Phosphate	161 (60-154)	All TCL compounds	J (all detects)	P

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14519-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples HAR-07_041211_01 and HAR-07_041211_36 were identified as field duplicates. No organophosphorus pesticide contaminants were detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Data Qualification Summary - SDG 280-14519-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14519-1	HAR-27_041211_01 HAR-28_041211_01 HAR-07_041211_01 HAR-07_041211_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Laboratory Blank Data Qualification Summary - SDG 280-14519-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Field Blank Data Qualification Summary - SDG 280-14519-1**

No Sample Data Qualified in this SDG

METHOD: GC Organophosphorus Pesticides (EPA SW 846 Method 8141A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4 / 12 / 11</u>
II	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V	Surrogate recovery	SW	
VI.	Matrix spike/Matrix spike duplicates	N	<u>Client Spec</u>
VII.	Laboratory control samples	A	<u>LCS 1D</u>
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	ND	<u>D = 3.4</u>
XIII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: Water

1	HAR-27_041211_01	11	<u>MB 280-62550 / 1-A</u>	21		31	
2	HAR-28_041211_01	12		22		32	
3	HAR-07_041211_01	13		23		33	
4	HAR-07_041211_36	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

VALIDATION FINDINGS WORKSHEET
 Surrogate Recovery

METHOD: GC HPLC
 Are surrogates required by the method? Yes / or No /
 Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
 N N/A Were surrogates spiked into all samples and blanks?
 Y(N) N/A Did all surrogate recoveries (%R) meet the QC limits?

#	Sample ID	Detected/Column	Surrogate Compound	%R (Limits)	Qualifications
	MID 280-62550 A-A	Col. 1	X	155 (60 - 154)	J dets / P (S)
		Col. 2	X	161 ()	↓
				()	
				()	
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Surrogate Compound	Surrogate Compound	Surrogate Compound	Surrogate Compound	Surrogate Compound
A Chlorobenzene (CBZ)	G Octacosane	M Benzofluoranthene	S 1-Chloro-3-Nitrobenzene	Y Tetrachloro-m-ylene
B 4-Bromofluorobenzene (BFB)	H Ortho-Terphenyl	N Terphenyl-D14	T 3,4-Dinitrotoluene	Z 2-Bromonaphthalene
C a,a,a-Trifluorotoluene	I Fluorobenzene (FBZ)	O Decachlorobiphenyl (DCB)	U Triphenyltin	AA 1-Chlorooctadecane
D Bromochlorobenzene	J n-Triacontane	P 1-methylinaphthalene	V Tri-n-propyltin	BB 2,4-DCPAA
E 1,4-Dichlorobutane	K Hexacosane	Q Dichlorophenyl Acetic Acid (DCAA)	W Tributyl Phosphate	CC 2,5-Dibromotoluene
F 1,4-Difluorobenzene (DFB)	L Bromobenzene	R 4-Nitrophenol	X Triphenyl Phosphate	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 12, 2011

LDC Report Date: May 13, 2011

Matrix: Water

Parameters: Hexachlorophene

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14519-1

Sample Identification

HAR-27_041211_01
HAR-28_041211_01
HAR-07_041211_01
HAR-07_041211_36
HAR-27_041211_01MS
HAR-27_041211_01MSD

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8321A for Hexachlorophene.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No hexachlorophene was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14519-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-07_041211_01 and HAR-07_041211_36 were identified as field duplicates. No hexachlorophene was detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Data Qualification Summary - SDG 280-14519-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14519-1	HAR-27_041211_01 HAR-28_041211_01 HAR-07_041211_01 HAR-07_041211_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Laboratory Blank Data Qualification Summary - SDG 280-14519-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Field Blank Data Qualification Summary - SDG 280-14519-1**

No Sample Data Qualified in this SDG

METHOD: LC/MS Hexachlorophene (EPA SW 846 Method 8321A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/12/11</u>
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	<u>LCS</u>
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	<u>ND</u>	<u>D = 3, 4</u>
XVII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

1	HAR-27_041211_01	11	<u>MB 280-62225/10</u>	21	31
2	HAR-28_041211_01	12		22	32
3	HAR-07_041211_01	13		23	33
4	HAR-07_041211_36	14		24	34
5	HAR-27_041211_01MS	15		25	35
6	HAR-27_041211_01MSD	16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 12, 2011
LDC Report Date: May 16, 2011
Matrix: Water
Parameters: Formaldehyde
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14519-1/A1D130522

Sample Identification

PZ-141_041211_01
EB_PZ-141_041211
SH-07_041211_01
HAR-27_041211_01
HAR-28_041211_01
HAR-07_041211_01
HAR-07_041211_36
PZ-141_041211_01MS
PZ-141_041211_01MSD

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

Samples EB_PZ-141_041211 and EB_SH04_040711 (from SDG 280-14379-1) were identified as a equipment blanks. No formaldehyde was found in these blanks.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No formaldehyde was found in this blank.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14519-1/A1D130522	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples HAR-07_041211_01 and HAR-07_041211_36 were identified as field duplicates. No formaldehyde was detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Data Qualification Summary - SDG 280-14519-1/A1D130522**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14519-1/ A1D130522	PZ-141_041211_01 EB_PZ-141_041211 SH-07_041211_01 HAR-27_041211_01 HAR-28_041211_01 HAR-07_041211_01 HAR-07_041211_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-14519-1/A1D130522**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Field Blank Data Qualification Summary - SDG 280-14519-1/A1D130522**

No Sample Data Qualified in this SDG

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/12/11</u>
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	A	
VII.	Laboratory control samples	A	<u>LCS</u>
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	ND	<u>D = 6, 7</u>
XIII.	Field blanks	ND	<u>EB = 2 EB-SH-04-040711 (280-14379-1)</u>

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinstate
 FB = Field blank

FB = FB-041211-19 (280-14655-1)
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	PZ-141_041211_01	11	<u>1104160-MB</u>	21		31	
2	EB_PZ-141_041211	12		22		32	
3	SH-07_041211_01	13		23		33	
4	HAR-27_041211_01	14		24		34	
5	HAR-28_041211_01	15		25		35	
6	HAR-07_041211_01	16		26		36	
7	HAR-07_041211_36	17		27		37	
8	PZ-141_041211_01MS	18		28		38	
9	PZ-141_041211_01MSD	19		29		39	
10		20		30		40	

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 12, 2011

LDC Report Date: May 13, 2011

Matrix: Water

Parameters: Hydrazines

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14519-1

Sample Identification

PZ-155_041211_01
EB_PZ-155_041211
HAR-27_041211_01
HAR-28_041211_01
HAR-07_041211_01
HAR-07_041211_36

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DVWC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazine contaminants were found in the method blanks.

Sample EB_PZ-155_041211 was identified as an equipment blank. No hydrazine contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No hydrazine contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14519-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples HAR-07_041211_01 and HAR-07_041211_36 were identified as field duplicates. No hydrazines were detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-14519-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14519-1	PZ-155_041211_01 EB_PZ-155_041211 HAR-27_041211_01 HAR-28_041211_01 HAR-07_041211_01 HAR-07_041211_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-14519-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-14519-1**

No Sample Data Qualified in this SDG

LDC #: 25421A76

VALIDATION COMPLETENESS WORKSHEET

Date: 5/12/11

SDG #: 280-14519-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JM

2nd Reviewer:

METHOD: HPLC Hydrazines (Method DWWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/12/11
II	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	LCS 1/D
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	ND	D = 5, 6
XIII.	Field blanks	ND	EB = 2 FB = FB-041411-19 (280-14655-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: *WWTCTV*

1	PZ-155_041211_01	11	MB 280-62655/25	21	31
2	EB_PZ-155_041211	12		22	32
3	HAR-27_041211_01	13		23	33
4	HAR-28_041211_01	14		24	34
5	HAR-07_041211_01	15	D	25	35
6	HAR-07_041211_36	16	D	26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

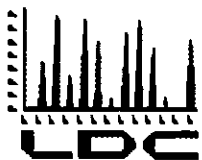
Notes: _____

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter		
1, 2	W	<u>Hydrazine</u>	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
3, 4	W	Hydrazine	<u>1,1-Dimethylhydrazine</u>	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
5, 6	W	<u>Hydrazine</u>	<u>1,1-Dimethylhydrazine</u>	<u>Monomethyl Hydrazine</u>
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine

Comments: _____



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 19, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

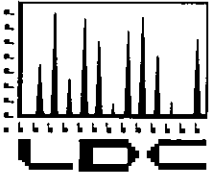
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 6, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25421:

<u>SDG #</u>	<u>Fraction</u>
280-14519-1/IUD1539 280-14655-1/IUD1667	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Polynuclear Aromatic Hydrocarbons, Pentachlorophenol, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, Ethylene Dibromide, Formaldehyde, Hexachloroethane, Organophosphorus Pesticides, Hydrazine
280-14758-1	Volatiles, 1,4-Dioxane, Semivolatiles, N-Nitrosodimethylamine, Wet Chemistry, Diesel Range Organics, Formaldehyde, Hydrazine

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004



- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

A handwritten signature in black ink that reads 'Pei Geng' in a cursive style.

Pei Geng
Project Manager/Senior Chemist

LDC #25421 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane (8260B-S)		1,2,3-TCP (524.2)		SVOA (8270C)		PAHs (8270C-SIM)		PCP (8270C-LL)		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (OK-DEQ)		EDB (504.1)		Formaldehyde (8315)		Hexachlorophene (8321A)		OPHS Pest. (8141A)		Herbs (8151A)			
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S		
Matrix: Water/Soil																																							
A	280-14519-1/ IUD1539	05/06/11	05/27/11	13	0	12	0	6	0	9	0	2	0	4	0	9	0	4	0	8	0	5	0	9	0	8	0	5	0	7	0	4	0	4	0	4	0		
B	280-14655-1/ IUD1667	05/06/11	05/27/11	10	0	10	0	9	0	6	0	-	5	0	5	0	5	0	5	0	5	0	6	0	6	0	6	0	6	0	5	0	5	0	5	0	5	0	
C	280-14758-1	05/06/11	05/27/11	8	0	8	0	-	6	0	-	-	-	-	-	6	0	-	-	-	-	-	-	-	-	5	0	-	-	-	-	-	-	-	-	-	-	-	
Total																																							
T/PG				31	0	30	0	15	0	21	0	2	0	9	0	20	0	9	0	13	0	11	0	15	0	19	0	14	0	18	0	9	0	9	0	9	0	9	254

LDC #25421 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydrazine (DVWC)		Alk. (2320B)		NH ₃ -N (350.1)		Cl SO ₄ (300.0)		Br NO ₂ O-PO ₄		F NO ₃ (300.0)		Cr(VI) (7196A)		Diss. Cr(VI) (7196A)		CN- (9012A)		Cond. (2510B)		ClO ₂ (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)		S= (4500 -S2-D)					
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S		
Matrix: Water/Soil																																									
A	280-14519-1/ A1D130522	05/06/11	05/27/11	4	0	2	0	4	0	3	0	5	0	5	0	2	0	2	0	7	0	2	0	2	0	4	0	3	0	5	0	5	0	3	0	3	0	3	0	4	0
B	280-14655-1/ A1D150429	05/06/11	05/27/11	6	0	3	0	3	0	3	0	6	0	3	0	-	-	6	0	1	0	1	0	5	0	3	0	6	0	6	0	3	0	3	0	3	0	5	0		
C	280-14758-1/ A1D190605	05/06/11	05/27/11	6	0	1	0	1	0	-	-	6	0	-	-	-	-	6	0	-	-	-	-	-	-	-	-	6	0	6	0	-	-	-	-	-	-	-	-		
Total																																									
T/PG				16	0	6	0	8	0	6	0	17	0	8	0	2	0	19	0	3	0	3	0	3	0	9	0	6	0	17	0	17	0	17	0	6	0	6	0	9	158

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 14, 2011
LDC Report Date: May 16, 2011
Matrix: Water
Parameters: Volatiles
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14655-1

Sample Identification

HAR-15_041411_01
TB_HAR-15_041411
HAR-31_041411_01
HAR-09_041411_01
TB_HAR-09_041411
HAR-11_041411_01
TB_HAR-11_041411
HAR-20_041411_01
FB_041411_19
TB_FB_041411
HAR-15_041411_01MS
HAR-15_041411_01MSD
HAR-09_041411_01MS
HAR-09_041411_01MSD

Introduction

This data review covers 14 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Samples TB_HAR-15_041411, TB_HAR-09_041411, TB_HAR-11_041411, and TB_FB_041411 were identified as trip blanks. No volatile contaminants were found in these blanks.

Sample FB_041411_19 was identified as a field blank. No volatile contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
HAR-15_041411_01MS/MSD (HAR-15_041411_01)	1,1,1,2-Tetrachloroethane 1,1,2,2-Tetrachloroethane 1,4-Dichlorobenzene cis-1,3-Dichloropropene Dibromochloromethane	76 (77-120) 67 (73-120) 75 (77-120) 72 (76-120) 75 (76-120)	- - - - -	- - - - -	J (all detects) UJ (all non-detects)	A
HAR-09_041411_01MS/MSD (HAR-09_041411_01)	Acetone	-	132 (48-130)	-	J (all detects)	A
HAR-09_041411_01MS/MSD (HAR-09_041411_01)	trans-1,4-Dichloro-2-butene	47 (70-130)	50 (70-130)	-	J (all detects) UJ (all non-detects)	A

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14655-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-14655-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14655-1	HAR-15_041411_01	1,1,1,2-Tetrachloroethane 1,1,2,2-Tetrachloroethane 1,4-Dichlorobenzene cis-1,3-Dichloropropene Dibromochloromethane	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
280-14655-1	HAR-09_041411_01	Acetone	J (all detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
280-14655-1	HAR-09_041411_01	trans-1,4-Dichloro-2-butene	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
280-14655-1	HAR-15_041411_01 TB_HAR-15_041411 HAR-31_041411_01 HAR-09_041411_01 TB_HAR-09_041411 HAR-11_041411_01 TB_HAR-11_041411 HAR-20_041411_01 FB_041411_19 TB_FB_041411	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-14655-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-14655-1**

No Sample Data Qualified in this SDG

LDC #: 25421B1a

VALIDATION COMPLETENESS WORKSHEET

Date: 5/13/11

SDG #: 280-14655-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JVL

2nd Reviewer: [Signature]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/14/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	A	LCS / D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 2, 5, 7, 10 FB = 9

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: water

1	HAR-15_041411_01	11	HAR-15_041411_01MS	21	MB 280-62612/12	31	(FFF, 666, II)
2	TB HAR-15_041411	12	HAR-15_041411_01MSD	22	MB 280-63183/5	32	
3	HAR-31_041411_01	13	HAR-09_041411_01MS	23	MB 280-63666/7	33	
4	HAR-09_041411_01	14	HAR-09_041411_01MSD	24		34	
5	TB HAR-09_041411	15		25		35	
6	HAR-11_041411_01	16		26		36	
7	TB HAR-11_041411	17		27		37	
8	HAR-20_041411_01	18		28		38	
9	FB 041411_19	19		29		39	
10	TB_FB_041411	20		30		40	

VOCS, IPA, APP IX = 1, ✓
 VOCS, IPA = 3
 APP IX, R, X = 4-8
 STR W = 9

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC. 1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl chloride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN. trans-1,4-Dichloro-2-butene
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Diisopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

METHOD : GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

Y N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	<u>41/12</u>	<u>UU</u>	<u>76 (77-120)</u>	()	()	<u>1</u>	<u>J/MS A (6)</u>
		<u>BB</u>	<u>67 (73-126)</u>	()	()		
		<u>HHH</u>	<u>75 (77-126)</u>	()	()		
		<u>R</u>	<u>72 (76-120)</u>	()	()		
		<u>T</u>	<u>75 (76-120)</u>	()	()		
			()	()	()		
			()	()	()		
	<u>13/14</u>	<u>F</u>	()	<u>132 (48-120)</u>	()	<u>4</u>	<u>J det A (2)</u>
		<u>NNN</u>	<u>47 (70-120)</u>	<u>50 (70-120)</u>	()	<u>1</u>	<u>J/MS A</u>
			()	()	()		
			()	()	()		
			()	()	()		
			()	()	()		
			()	()	()		
			()	()	()		
			()	()	()		
			()	()	()		
			()	()	()		

Compound		QC Limits (Soil)	RPD (Soil)	QC Limits (Water)	RPD (Water)
H.	1,1-Dichloroethene	59-172%	< 22%	61-145%	< 14%
S.	Trichloroethene	62-137%	< 24%	71-120%	< 14%
V.	Benzene	66-142%	< 21%	76-127%	< 11%
CC.	Toluene	59-139%	< 21%	76-125%	< 13%
DD.	Chlorobenzene	60-133%	< 21%	75-130%	< 13%

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 14, 2011

LDC Report Date: May 16, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14655-1

Sample Identification

HAR-15_041411_01
TB_HAR-15_041411
HAR-31_041411_01
HAR-09_041411_01
TB_HAR-09_041411
HAR-11_041411_01
TB_HAR-11_041411
HAR-20_041411_01
FB_041411_19
TB_FB_041411

Introduction

This data review covers 10 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-dioxane was found in the method blanks.

Samples TB_HAR-15_041411, TB_HAR-09_041411, and TB_HAR-11_041411 were identified as trip blanks. No 1,4-dioxane was found in these blanks.

Sample FB_041411_19 was identified as a field blank. No 1,4-dioxane was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14655-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-14655-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14655-1	HAR-15_041411_01 TB_HAR-15_041411 HAR-31_041411_01 HAR-09_041411_01 TB_HAR-09_041411 HAR-11_041411_01 TB_HAR-11_041411 HAR-20_041411_01 FB_041411_19 TB_FB_041411	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-14655-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-14655-1**

No Sample Data Qualified in this SDG

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	X	Sampling dates: 4/14/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS 10
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 2, 5, 7, 10 FB = 1

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

1	HAR-15_041411_01	11	MB 280-63048/5	21	31
2	TB_HAR-15_041411	12		22	32
3	HAR-31_041411_01	13		23	33
4	HAR-09_041411_01	14		24	34
5	TB_HAR-09_041411	15		25	35
6	HAR-11_041411_01	16		26	36
7	TB_HAR-11_041411	17		27	37
8	HAR-20_041411_01	18		28	38
9	FB_041411_19	19		29	39
10	TB_FB_041411	20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 14, 2011

LDC Report Date: May 17, 2011

Matrix: Water

Parameters: 1,2,3-Trichloropropane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14655-1/IUD1667

Sample Identification

HAR-15_041411_01
TB_HAR-15_041411
HAR-09_041411_01
TB_HAR-09_041411
HAR-11_041411_01
TB_HAR-11_041411
HAR-20_041411_01
FB_041411_19
TB_FB_041411

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-trichloropropane was found in the method blanks.

Samples TB_HAR-15_041411, TB_HAR-09_041411, TB_HAR-11_041411, and TB_FB_041411 were identified as trip blanks. No 1,2,3-trichloropropane was found in these blanks.

Sample FB_041411_19 was identified as a field blank. No 1,2,3-trichloropropane was found in this blank.

VI. Surrogate Spikes

Surrogate spikes were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Raw data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-146551/IUD1667	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011

1,2,3-Trichloropropane - Data Qualification Summary - SDG 280-14655-1/IUD1667

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14655-1/IUD1667	HAR-15_041411_01 TB_HAR-15_041411 HAR-09_041411_01 TB_HAR-09_041411 HAR-11_041411_01 TB_HAR-11_041411 HAR-20_041411_01 FB_041411_19 TB_FB_041411	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011

1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG 280-14655-1/IUD1667

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011

1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG 280-14655-1/IUD1667

No Sample Data Qualified in this SDG

METHOD: GC/MS 1,2,3-Trichloropropane (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/12/11</u>
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates / Lab Dup	N/A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 2, 4, 6, 9 FB = 8

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

1	HAR-15_041411_01	11	11 D 2393 - BK1	21		31	
2	TB_HAR-15_041411	12	11 D 2586 - ✓	22		32	
3	HAR-09_041411_01	13		23		33	
4	TB_HAR-09_041411	14		24		34	
5	HAR-11_041411_01	15		25		35	
6	TB_HAR-11_041411	16		26		36	
7	HAR-20_041411_01	17		27		37	
8	FB_041411_19	18		28		38	
9	TB_FB_041411	19		29		39	
10		20		30		40	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 14, 2011

LDC Report Date: May 16, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14655-1

Sample Identification

HAR-15_041411_01
HAR-31_041411_01
HAR-09_041411_01
HAR-11_041411_01
HAR-20_041411_01
FB_041411_19

Introduction

This data review covers 6 water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280_62602/1A	4/16/11	Bis(2-ethylhexyl)phthalate	2.47 ug/L	HAR-15_041411_01 HAR-09_041411_01 HAR-11_041411_01 HAR-20_041411_01 FB_041411_19

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
HAR-11_041411_01	Bis(2-ethylhexyl)phthalate	3.1 ug/L	10U ug/L

Sample FB_041411_19 was identified as a field blank. No semivolatile contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14655-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-14655-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14655-1	HAR-15_041411_01 HAR-31_041411_01 HAR-09_041411_01 HAR-11_041411_01 HAR-20_041411_01 FB_041411_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-14655-1**

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-14655-1	HAR-11_041411_01	Bis(2-ethylhexyl)phthalate	10U ug/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-14655-1**

No Sample Data Qualified in this SDG

LDC #: 25421B2a
 SDG #: 280-14655-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/13/11
 Page: 1 of 1
 Reviewer: JVG
 2nd Reviewer: A

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/19/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	current spec
VIII.	Laboratory control samples	A	LCS B
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	FB = 6

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

WATER

1	HAR-15_041411_01	11	MA 280-G2C 02/1-A	21	31
2	HAR-31_041411_01	12		22	32
3	HAR-09_041411_01	13		23	33
4	HAR-11_041411_01	14		24	34
5	HAR-20_041411_01	15		25	35
6	FB 041411_19	16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

8270 APP IX = 1, 3 - 6
 NB = 2

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(e)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU.
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes: * = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 14, 2011

LDC Report Date: May 17, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14655-1

Sample Identification

HAR-31_041411_01

HAR-09_041411_01

HAR-11_041411_01

HAR-20_041411_01

FB_041411_19

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-nitrosodimethylamine was found in the method blanks.

Sample FB_041411_19 was identified as a field blank. No N-nitrosodimethylamine was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14655-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-14655-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14655-1	HAR-31_041411_01 HAR-09_041411_01 HAR-11_041411_01 HAR-20_041411_01 FB_041411_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary – SDG 280-14655-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-14655-1**

No Sample Data Qualified in this SDG

LDC #: 25421B2b
 SDG #: 280-14655-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/13/11
 Page: 1 of 1
 Reviewer: JVG
 2nd Reviewer: [Signature]

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/14/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	ICS 1p
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	FB = 5

Note: A = Acceptable, ND = No compounds detected, D = Duplicate
 N = Not provided/applicable, R = Rinsate, TB = Trip blank
 SW = See worksheet, FB = Field blank, EB = Equipment blank

Validated Samples:

Water

1	HAR-31_041411_01	11	MB 280-62517/A	21	31
2	HAR-09_041411_01	12		22	32
3	HAR-11_041411_01	13		23	33
4	HAR-20_041411_01	14		24	34
5	FB_041411_19	15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 14, 2011
LDC Report Date: May 16, 2011
Matrix: Water
Parameters: Pentachlorophenol
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14655-1

Sample Identification

HAR-15_041411_01
HAR-09_041411_01
HAR-11_041411_01
HAR-20_041411_01
FB_041411_19

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Pentachlorophenol.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No pentachlorophenol was found in the method blanks.

Sample FB_041411_19 was identified as a field blank. No pentachlorophenol was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG280-14655-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Data Qualification Summary - SDG 280-14655-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14655-1	HAR-15_041411_01 HAR-09_041411_01 HAR-11_041411_01 HAR-20_041411_01 FB_041411_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Laboratory Blank Data Qualification Summary - SDG 280-14655-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Field Blank Data Qualification Summary - SDG 280-14655-1**

No Sample Data Qualified in this SDG

LDC #: 25421B2d

VALIDATION COMPLETENESS WORKSHEET

Date: 5/13/11

SDG #: 280-14655-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: NVG

2nd Reviewer: [Signature]

METHOD: GC/MS Pentachlorophenol (EPA SW846 Method 8270C-~~2~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/14/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS 1D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	FB = 5

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	HAR-15_041411_01	11	MB 280-625 33 / A	21		31	
2	HAR-09_041411_01	12		22		32	
3	HAR-11_041411_01	13		23		33	
4	HAR-20_041411_01	14		24		34	
5	FB_041411_19	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 14, 2011
LDC Report Date: May 17, 2011
Matrix: Water
Parameters: Chlorinated Pesticides
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14655-1

Sample Identification

HAR-15_041411_01
HAR-09_041411_01
HAR-11_041411_01
HAR-20_041411_01
FB_041411_19

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

Sample FB_041411_19 was identified as a field blank. No chlorinated pesticide contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Column	Surrogate	%R (Limits)	Compound	Flag	A or P
HAR-11_041411_01	Col 1	Tetrachloro-m-xylene	58 (60-140)	All TCL compounds	J (all detects) UJ (all non-detects)	P
MB 280-62596/1-A	Col 1	Tetrachloro-m-xylene	50 (60-140)	All TCL compounds	J (all detects) UJ (all non-detects)	P
MB 280-62596/1-A	Col 2	Tetrachloro-m-xylene	55 (60-140)	All TCL compounds	J (all detects) UJ (all non-detects)	P

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D 280-62596/2,3-A (All samples in SDG 280-14655-1)	4,4'-DDT Aldrin Dieldrin gamma-BHC Heptachlor	- - - - -	- - - - -	36 (≤25) 52 (≤33) 34 (≤22) 34 (≤26) 46 (≤27)	J (all detects) UJ (all non-detects)	P
LCS/D 280-62596/2,3-A (All samples in SDG 280-14655-1)	Endrin	141 (66-127)	-	-	J (all detects)	P

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

All target compound identifications were within validation criteria.

XIII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14655-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Data Qualification Summary - SDG 280-14655-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14655-1	HAR-11_041411_01	All TCL compounds	J (all detects) UJ (all non-detects)	P	Surrogate spikes (%R) (S)
280-14655-1	HAR-15_041411_01 HAR-09_041411_01 HAR-11_041411_01 HAR-20_041411_01 FB_041411_19	4,4'-DDT Aldrin Dieldrin gamma-BHC Heptachlor	J (all detects) UJ (all non-detects)	P	Laboratory control samples (RPD) (E)
280-14655-1	HAR-15_041411_01 HAR-09_041411_01 HAR-11_041411_01 HAR-20_041411_01 FB_041411_19	Endrin	J (all detects)	P	Laboratory control samples (%R) (L)
280-14655-1	HAR-15_041411_01 HAR-09_041411_01 HAR-11_041411_01 HAR-20_041411_01 FB_041411_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 280-14655-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Field Blank Data Qualification Summary - SDG 280-14655-1**

No Sample Data Qualified in this SDG

LDC #: 25421B3a

VALIDATION COMPLETENESS WORKSHEET

Date: 5/13/11

SDG #: 280-14655-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JZ

2nd Reviewer: A

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/14/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	SW	LCS / D
IX.	Regional quality assurance and quality control	N	
X.	Florisil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation and reported CRQLs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates	N	
XVI.	Field blanks	ND	FB = 5

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	HAR-15_041411_01	11	MB 280-62596/1-A21	21	31	
2	HAR-09_041411_01	12		22	32	
3	HAR-11_041411_01	13		23	33	
4	HAR-20_041411_01	14		24	34	
5	FB_041411_19	15		25	35	
6		16		26	36	
7		17		27	37	
8		18		28	38	
9		19		29	39	
10		20		30	40	

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG. Chlordane
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH. Chlordane (Technical)
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II. Aroclor 1262
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ. Aroclor 1268
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. 2,4'-DDD	KK. oxy Chlordane
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. 2,4'-DDE	LL. trans-Nonachlor
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE. 2,4'-DDT	MM. cis-Nonachlor
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF. Hexachlorobenzene	NN.

Notes:

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 14, 2011

LDC Report Date: May 17, 2011

Matrix: Water

Parameters: Polychlorinated Biphenyls

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14655-1

Sample Identification

HAR-15_041411_01
HAR-09_041411_01
HAR-11_041411_01
HAR-20_041411_01
FB_041411_19

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyls were found in the method blanks.

Sample FB_041411_19 was identified as a field blank. No polychlorinated biphenyls were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14655-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Data Qualification Summary - SDG 280-14655-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14655-1	HAR-15_041411_01 HAR-09_041411_01 HAR-11_041411_01 HAR-20_041411_01 FB_041411_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 280-14655-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG 280-14655-1**

No Sample Data Qualified in this SDG

LDC #: 25421B3b
 SDG #: 280-14655-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/13/11
 Page: 1 of 1
 Reviewer: VG
 2nd Reviewer: [Signature]

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/14/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional quality assurance and quality control	N	
X.	Florisil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation and reported CRQLs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates	N	
XVI.	Field blanks	ND	FB = 5

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	HAR-15_041411_01	11	MB 280-6256/1A	21	31
2	HAR-09_041411_01	12		22	32
3	HAR-11_041411_01	13		23	33
4	HAR-20_041411_01	14		24	34
5	FB_041411_19	15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 14, 2011
LDC Report Date: May 12, 2011
Matrix: Water
Parameters: Metals
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14655-1

Sample Identification

HAR-15_041411_01	HAR-31_041411_01FMS
HAR-31_041411_01	HAR-31_041411_01FMSD
HAR-09_041411_01	FB_041411_19FMS
HAR-11_041411_01	FB_041411_19FMSD
HAR-20_041411_01	FB_041411_19MS
FB_041411_19	FB_041411_19MSD
HAR-15_041411_01F	
HAR-31_041411_01F	
HAR-09_041411_01F	
HAR-11_041411_01F	
HAR-20_041411_01F	
FB_041411_19F	
HAR-15_041411_01MS	
HAR-15_041411_01MSD	
HAR-31_041411_01MS	
HAR-31_041411_01MSD	
HAR-09_041411_01MS	
HAR-09_041411_01MSD	
HAR-15_041411_01FMS	
HAR-15_041411_01FMSD	

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 26 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B, 6020, and 7000 for Metals. The metals analyzed were Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Manganese Sodium	0.000280 mg/L 0.296 mg/L	HAR-31_041411_01F HAR-09_041411_01F FB_041411_19F
PB (prep blank)	Iron	0.0228 mg/L	HAR-31_041411_01 HAR-09_041411_01 FB_041411_19
PB (prep blank)	Antimony Thallium Tin	0.0000709 mg/L 0.000108 mg/L 0.000495 mg/L	HAR-15_041411_01F HAR-09_041411_01F HAR-11_041411_01F HAR-20_041411_01F FB_041411_19F
PB (prep blank)	Barium Thallium Tin	0.000320 mg/L 0.0000323 mg/L 0.000261 mg/L	HAR-15_041411_01 HAR-09_041411_01 HAR-11_041411_01 HAR-20_041411_01 FB_041411_19

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
HAR-15_041411_01	Thallium Tin	0.000035 mg/L 0.00037 mg/L	0.000035U mg/L 0.00037U mg/L
HAR-31_041411_01	Iron	0.033 mg/L	0.033U mg/L
HAR-09_041411_01	Tin	0.00040 mg/L	0.00040U mg/L
HAR-11_041411_01	Tin	0.00024 mg/L	0.00024U mg/L
HAR-20_041411_01	Tin	0.00028 mg/L	0.00028U mg/L
FB_041411_19	Iron	0.030 mg/L	0.030U mg/L
HAR-15_041411_01F	Antimony Thallium Tin	0.00024 mg/L 0.000074 mg/L 0.00060 mg/L	0.00024U mg/L 0.000074U mg/L 0.00060U mg/L
HAR-09_041411_01F	Antimony Thallium Tin	0.00018 mg/L 0.000027 mg/L 0.00044 mg/L	0.00018U mg/L 0.000027U mg/L 0.00044U mg/L
HAR-11_041411_01F	Antimony Tin	0.00020 mg/L 0.00047 mg/L	0.00020U mg/L 0.00047U mg/L
HAR-20_041411_01F	Antimony Thallium Tin	0.000080 mg/L 0.000029 mg/L 0.00037 mg/L	0.000080U mg/L 0.000029U mg/L 0.00037U mg/L
FB_041411_19F	Manganese Sodium Tin	0.0012 mg/L 0.29 mg/L 0.00017 mg/L	0.0012U mg/L 0.29U mg/L 0.00017U mg/L

Samples FB_041411_19 and FB_041411_19F were identified as field blanks. No metal contaminants were found in these blanks with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_041411_19	4/14/11	Iron	0.030 mg/L	No associated samples in this SDG
FB_041411_19F	4/14/11	Iron Manganese Sodium Tin	0.082 mg/L 0.0012 mg/L 0.29 mg/L 0.00017 mg/L	No associated samples in this SDG

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution data were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-14655-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Data Qualification Summary - SDG 280-14655-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-14655-1	HAR-15_041411_01 HAR-31_041411_01 HAR-09_041411_01 HAR-11_041411_01 HAR-20_041411_01 FB_041411_19 HAR-15_041411_01F HAR-31_041411_01F HAR-09_041411_01F HAR-11_041411_01F HAR-20_041411_01F FB_041411_19F	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Laboratory Blank Data Qualification Summary - SDG 280-14655-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-14655-1	HAR-15_041411_01	Thallium Tin	0.000035U mg/L 0.00037U mg/L	A	B
280-14655-1	HAR-31_041411_01	Iron	0.033U mg/L	A	B
280-14655-1	HAR-09_041411_01	Tin	0.00040U mg/L	A	B
280-14655-1	HAR-11_041411_01	Tin	0.00024U mg/L	A	B
280-14655-1	HAR-20_041411_01	Tin	0.00028U mg/L	A	B
280-14655-1	FB_041411_19	Iron	0.030U mg/L	A	B
280-14655-1	HAR-15_041411_01F	Antimony Thallium Tin	0.00024U mg/L 0.000074U mg/L 0.00060U mg/L	A	B
280-14655-1	HAR-09_041411_01F	Antimony Thallium Tin	0.00018U mg/L 0.000027U mg/L 0.00044U mg/L	A	B
280-14655-1	HAR-11_041411_01F	Antimony Tin	0.00020U mg/L 0.00047U mg/L	A	B
280-14655-1	HAR-20_041411_01F	Antimony Thallium Tin	0.000080U mg/L 0.000029U mg/L 0.00037U mg/L	A	B

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-14655-1	FB_041411_19F	Manganese Sodium Tin	0.0012U mg/L 0.29U mg/L 0.00017U mg/L	A	B

Boeing SSFL GW 2nd Qtr, 2011

Metals - Field Blank Data Qualification Summary - SDG 280-14655-1

No Sample Data Qualified in this SDG

LDC #: 25421B4

VALIDATION COMPLETENESS WORKSHEET

Date: 5-11-11

SDG #: 280-14655-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: MG

2nd Reviewer: *[Signature]*

METHOD: Metals (EPA SW 846 Method 6010B/6020/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4-14-11
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis <i>9M</i>	ASW	MS/MSD
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	A	LCS
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	not utilized
XI.	ICP Serial Dilution	SW N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	
XIV.	Field Duplicates	N	
XV.	Field Blanks	SW	FB=6, 12

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

all water

1	HAR-15_041411_01	11	HAR-20_041411_01F	21	HAR-31_041411_01FMS	31	
2	HAR-31_041411_01	12	FB_041411_19F	22	HAR-31_041411_01FMSD	32	
3	HAR-09_041411_01	13	HAR-15_041411_01MS	23	FB_041411_19FMS	33	
4	HAR-11_041411_01	14	HAR-15_041411_01MSD	24	FB_041411_19FMSD	34	
5	HAR-20_041411_01	15	HAR-31_041411_01MS	25	FB_041411_19MS	35	
6	FB_041411_19	16	HAR-31_041411_01MSD	26	FB_041411_19MSD	36	
7	HAR-15_041411_01F	17	HAR-09_041411_01MS	27		37	
8	HAR-31_041411_01F	18	HAR-09_041411_01MSD	28		38	
9	HAR-09_041411_01F	19	HAR-15_041411_01FMS	29		39	PBW1
10	HAR-11_041411_01F	20	HAR-15_041411_01FMSD	30		40	PBW2

Notes: Samples appended with "F" were analyzed for dissolved metals

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000) Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 8, 9, 12 Qual: U (B)

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	12									
Mn		0.000280		0.0014	0.0012									
Na		0.296		1.48	0.29									

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000) Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 2, 3, 6 Qual: U (B)

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	2	6								
Fe		0.0228		0.114	0.033	0.030								

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000) Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 7, 9-12 Qual: U (B)

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	7	9	10	11	12					
Sb		0.0000709		0.0003545	0.00024	0.00018	0.00020	0.00080						
Tl		0.000108		0.00054	0.000074	0.000027		0.000029						
Sn		0.000495		0.002475	0.00060	0.00044	0.00047	0.00037	0.00017					

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000) Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 1, 3-6 Qual: U (B)

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	1	3	4	5						
Ba		0.000320		0.0016										
Tl		0.0000323		0.0001615	0.000035									
Sn		0.000261		0.001305	0.00037	0.00040	0.00024	0.00028						

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
Note: a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

N N/A Were field blanks identified in this SDG?

N N/A Were target analytes detected in the field blanks?

Blank units: mg/L Associated sample units: mg/L

Sampling date: 4/14/11 Soil factor applied NA

Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: none

Analyte	Blank ID	Action Level	No Qual's	Sample Identification			
Fe	6 0.030	0.15					

Blank units: mg/L Associated sample units: mg/L

Sampling date: 4/14/11 Soil factor applied NA

Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: none

Analyte	Blank ID	Action Level	No Qual's	Sample Identification			
Fe	12 0.082	0.41					
Mn	0.0012	0.006					
Na	0.29	1.45					
Sn	0.00017	0.00085					

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 14, 2011

LDC Report Date: May 17, 2011

Matrix: Water

Parameters: Herbicides

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14655-1

Sample Identification

HAR-15_041411_01

HAR-09_041411_01

HAR-11_041411_01

HAR-20_041411_01

FB_041411_19

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8151A for Herbicides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No herbicide contaminants were found in the method blanks.

Sample FB_041411_19 was identified as a field blank. No herbicide contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/(Matrix Spike) Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D280-62536/2,3-A (All samples in SDG 280-14655-1)	2,4,5-T 2,4-D 2,4,5-TP (silvex)	- - -	- - -	34 (≤30) 39 (≤30) 32 (≤30)	J (all detects) UJ (all non-detects)	P

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14655-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Data Qualification Summary - SDG 280-14655-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14655-1	HAR-15_041411_01 HAR-09_041411_01 HAR-11_041411_01 HAR-20_041411_01 FB_041411_19	2,4,5-T 2,4-D 2,4,5-TP (silvex)	J (all detects) UJ (all non-detects)	P	Laboratory control samples (RPD) (E)
280-14655-1	HAR-15_041411_01 HAR-09_041411_01 HAR-11_041411_01 HAR-20_041411_01 FB_041411_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Laboratory Blank Data Qualification Summary - SDG 280-14655-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Field Blank Data Qualification Summary - SDG 280-14655-1**

No Sample Data Qualified in this SDG

LDC #: 25421B5
 SDG #: 280-14655-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/2/11
 Page: 1 of 1
 Reviewer: MB
 2nd Reviewer: A

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/14/11</u>
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	<u>Client spec</u>
VII.	Laboratory control samples	SW	<u>LCS 1b</u>
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	<u>FB = 5</u>

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	HAR-15_041411_01	11	<u>MB 280-62536/A</u>	21		31	
2	HAR-09_041411_01	12		22		32	
3	HAR-11_041411_01	13		23		33	
4	HAR-20_041411_01	14		24		34	
5	FB_041411_19	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

VALIDATION FINDINGS WORKSHEET

METHOD: GC HPLC

8310	8330	8151	8141	8141 (Cont)	8021B
A. Acenaphthene	A. HMX	A. 2,4-D	A. Dichlorvos	V. Fensulfothion	V. Benzene
B. Acenaphthylene	B. RDX	B. 2,4-DB	B. Mevinphos	W. Bolstar	CC. Toluene
C. Anthracene	C. 1,3,5-Trinitrobenzene	C. 2,4,5-T	C. Demeton-O	X. EPN	EE. Ethyl Benzene
D. Benzo(a)anthracene	D. 1,3-Dinitrobenzene	D. 2,4,5-TP	D. Demeton-S	Y. Azinphos-methyl	SSS. O-Xylene
E. Benzo(a)pyrene	E. Tetryl	E. Dinoseb	E. Ethoprop	Z. Coumaphos	RRR. MP-Xylene
F. Benzo(b)fluoranthene	F. Nitrobenzene	F. Dichlorprop	F. Naled	AA. Parathion	GG. Total Xylene
G. Benzo(g,h,i)perylene	G. 2,4,6-Trinitrotoluene	G. Dicamba	G. Sulfotep	BB. Trichloronate	
H. Benzo(k)fluoranthene	H. 4-Amino-2,6-dinitrotoluene	H. Dalapon	H. Phorate	CC. Trichlorinate	
I. Chrysene	I. 2-Amino-4,6-dinitrotoluene	I. MCPP	I. Dimethoate	DD. Trifluralin	
J. Dibenz(a,h)anthracene	J. 2,4-Dinitrotoluene	J. MCPA	J. Diazinon	EE. Def	
K. Fluoranthene	K. 2,6-Dinitrotoluene	K. Pentachlorophenol	K. Disulfoton	FF. Prowl	
L. Fluorene	L. 2-Nitrotoluene	L. 2,4,5-TP (silvex)	L. Parathion-methyl	GG. Ethion	
M. Indeno(1,2,3-cd)pyrene	M. 3-Nitrotoluene	M. Silvex	M. Ronnel		
N. Naphthalene	N. 4-Nitrotoluene		N. Malathion		
O. Phenanthrene	O. Nitroglycerin		O. Chlorpyrifos		
P. Pyrene	P.		P. Fenthion		
Q.	Q		Q. Parathion-ethyl		
R.			R. Trichlorate		
S.			S. Merphos		
			T. Stirofos		
			U. Tokuthion		

Notes:

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 14, 2011
LDC Report Date: May 12, 2011
Matrix: Water
Parameters: Wet Chemistry
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14655-1

Sample Identification

HAR-15_041411_01
HAR-31_041411_01
HAR-09_041411_01
HAR-11_041411_01
HAR-20_041411_01
FB_041411_19
HAR-15_041411_01MS
HAR-15_041411_01MSD
HAR-15_041411_01DUP
HAR-31_041411_01MS
HAR-31_041411_01MSD
HAR-31_041411_01DUP
HAR-09_041411_01DUP
FB_041411_19MS
FB_041411_19MSD

Introduction

This data review covers 15 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Standard Method 2320B for Alkalinity, EPA Method 350.1 for Ammonia as Nitrogen, EPA Method 300.0 for Chloride, Fluoride, Nitrate and Sulfate, Standard Method 2510B for Conductivity, EPA SW 846 Method 9012A for Cyanide, EPA SW 846 Method 7196A for Hexavalent Chromium and Dissolved Hexavalent Chromium, EPA Method 314.0 for Perchlorate, EPA SW 846 Method 9040B for pH, Standard Method 4500-S2-D for Sulfide, Standard Method 2540C for Total Dissolved Solids, and EPA Method 180.1 for Turbidity.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

Raw data were not reviewed for this SDG. The review was based on QC data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
FB_041411_19	Hexavalent chromium Dissolved hexavalent chromium	24.50 hours	24 hours	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks.

Sample FB_041411_19 was identified as a field blank. No contaminant concentrations were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_041411_19	4/14/11	pH	5.81 units	No associated samples in this SDG

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-14655-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-14655-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-14655-1	FB_041411_19	Hexavalent chromium Dissolved hexavalent chromium	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-14655-1	HAR-15_041411_01 HAR-31_041411_01 HAR-09_041411_01 HAR-11_041411_01 HAR-20_041411_01 FB_041411_19	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-14655-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-14655-1**

No Sample Data Qualified in this SDG

LDC #: 25421B6

VALIDATION COMPLETENESS WORKSHEET

Date: 5-11-11

SDG #: 280-14655-1

Level V

Page: 1 of 1

Laboratory: Test America Inc.

Reviewer: MG
2nd Reviewer: ✓

9M
350.1

METHOD: (Analyte) Alkalinity (SM2320B), Ammonia-N (EPA Method 350.2), Chloride, Fluoride, Nitrate, Sulfate (EPA Method 300.0), Conductivity (SM2510B), Cyanide (EPA SW846 Method 9012A), Hexavalent Chromium & Dissolved Hexavalent Chromium (EPA SW846 Method 7196A), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B), Sulfide (SM4500-S2-D), TDS (SM2440C), Turbidity (EPA Method 180.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets. TDS (SM2540C)

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: 4-14-11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/MSD
V	Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS/LCSD
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X	Field blanks	SW	FB = 6, 16 ✓

Note: A = Acceptable * = ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:
all water

1	HAR-15_041411_01	11	HAR-31_041411_01MSD	21		31
2	HAR-31_041411_01	12	HAR-31_041411_01DUP	22		32
3	HAR-09_041411_01	13	HAR-09_041411_01DUP	23		33
4	HAR-11_041411_01	14	FB_041411_19MS	24		34
5	HAR-20_041411_01	15	FB_041411_19MSD	25		35
6	FB_041411_19	16	FB_041411_19F	26		36
7	HAR-15_041411_01MS	17		27		37
8	HAR-15_041411_01MSD	18		28		38
9	HAR-15_041411_01DUP	19		29		39
10	HAR-31_041411_01MS	20		30	PBW	40

Notes: _____

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: Inorganics, EPA Method. See Cover
 N/A Were field blanks identified in this SDG?
 N/A Were target analytes detected in the field blanks?
Blank units: pH units. Associated sample units: pH units
Sampling date: 4/14/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: _____

Associated Samples: none

Analyte	Blank ID	Action Limit	No Qual.	Sample Identification
pH	6			
	5.81			

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 14, 2011

LDC Report Date: May 17, 2011

Matrix: Water

Parameters: Diesel Range Organics

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14655-1

Sample Identification

HAR-15_041411_01
HAR-31_041411_01
HAR-09_041411_01
HAR-11_041411_01
HAR-20_041411_01
FB_041411_19

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Diesel Range Organics.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No diesel range organic contaminants were found in the method blanks.

Sample FB_041411_19 was identified as a field blank. No diesel range organic contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG280-14655-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Data Qualification Summary - SDG 280-14655-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14655-1	HAR-15_041411_01 HAR-31_041411_01 HAR-09_041411_01 HAR-11_041411_01 HAR-20_041411_01 FB_041411_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Laboratory Blank Data Qualification Summary - SDG 280-14655-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Field Blank Data Qualification Summary - SDG 280-14655-1**

No Sample Data Qualified in this SDG

LDC #: 25421B8
 SDG #: 280-14655-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/13/11
 Page: 1 of 1
 Reviewer: JVG
 2nd Reviewer: _____

8015 B

METHOD: GC Diesel Range Organics (Oklahoma Department of Environmental Quality)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/14/11</u>
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	<u>Client Spec</u>
VII.	Laboratory control samples	A	<u>LCS / D</u>
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	<u>ND</u>	<u>FB = 6</u>

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: Water

1	HAR-15_041411_01	11	<u>MB 280-62450/1-A</u>	21	31
2	HAR-31_041411_01	12		22	32
3	HAR-09_041411_01	13		23	33
4	HAR-11_041411_01	14		24	34
5	HAR-20_041411_01	15		25	35
6	FB_041411_19	16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 14, 2011
LDC Report Date: May 17, 2011
Matrix: Water
Parameters: 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14655-1

Sample Identification

HAR-15_041411_01
TB_HAR-15_041411
HAR-09_041411_01
TB_HAR-09_041411
HAR-11_041411_01
TB_HAR-11_041411
HAR-20_041411_01
FB_041411_19
TB_FB_041411

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 504.1 for 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in the method blanks.

Samples TB_HAR-15_041411, TB_HAR-09_041411, TB_HAR-11_041411, and TB_FB_041411 were identified as a trip blanks. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in these blanks.

Sample FB_041411_19 was identified as a field blank. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14655-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Data Qualification Summary -
 SDG 280-14655-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14655-1	HAR-15_041411_01 TB_HAR-15_041411 HAR-09_041411_01 TB_HAR-09_041411 HAR-11_041411_01 TB_HAR-11_041411 HAR-20_041411_01 FB_041411_19 TB_FB_041411	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Laboratory Blank Data
 Qualification Summary - SDG 280-14655-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Field Blank Data Qualification
 Summary - SDG 280-14655-1**

No Sample Data Qualified in this SDG

LDC #: 25421B10

VALIDATION COMPLETENESS WORKSHEET

SDG #: 280-14655-1

Level V

Laboratory: Test America, Inc.

Date: 5/13/11

Page: 1 of 1

Reviewer: JVG

2nd Reviewer: A

METHOD: GC 1,2-Dibromomethane & 1,2-Dibromo-3-chloropropane (EPA Method 504.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/14/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client spec
VII.	Laboratory control samples	A	ICS/B
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	MD	TB = 2, 4, 6, 9 FB = 8

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water						
1	HAR-15_041411_01	11	MB 280-63757/A-A	21		31
2	TB_HAR-15_041411	12		22		32
3	HAR-09_041411_01	13		23		33
4	TB_HAR-09_041411	14		24		34
5	HAR-11_041411_01	15		25		35
6	TB_HAR-11_041411	16		26		36
7	HAR-20_041411_01	17		27		37
8	FB_041411_19	18		28		38
9	TB_FB_041411	19		29		39
10		20		30		40

Notes:

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 14, 2011
LDC Report Date: May 17, 2011
Matrix: Water
Parameters: Organophosphorus Pesticides
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14655-1

Sample Identification

HAR-15_041411_01
HAR-09_041411_01
HAR-11_041411_01
HAR-20_041411_01
FB_041411_19

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8141A for Organophosphorus Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No organophosphorus pesticide contaminants were found in the method blanks.

Sample FB_041411_19 was identified as a field blank. No organophosphorus pesticide contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG280-14655-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Data Qualification Summary - SDG 280-14655-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14655-1	HAR-15_041411_01 HAR-09_041411_01 HAR-11_041411_01 HAR-20_041411_01 FB_041411_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Laboratory Blank Data Qualification Summary - SDG 280-14655-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Field Blank Data Qualification Summary - SDG 280-14655-1**

No Sample Data Qualified in this SDG

LDC #: 25421B17

VALIDATION COMPLETENESS WORKSHEET

SDG #: 280-14655-1

Level V

Laboratory: Test America, Inc.

Date: 5/12/11

Page: 1 of 1

Reviewer: N/G

2nd Reviewer: A

METHOD: GC Organophosphorus Pesticides (EPA SW 846 Method 8141A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/14/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	A	LCS 1/2
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	FB = 5

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	HAR-15_041411_01	11	MB 280-62874 1-A	21		31	
2	HAR-09_041411_01	12		22		32	
3	HAR-11_041411_01	13		23		33	
4	HAR-20_041411_01	14		24		34	
5	FB_041411_19	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 14, 2011

LDC Report Date: May 17, 2011

Matrix: Water

Parameters: Hexachlorophene

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14655-1

Sample Identification

HAR-15_041411_01

HAR-09_041411_01

HAR-11_041411_01

HAR-20_041411_01

FB_041411_19

HAR-15_041411_01MS

HAR-15_041411_01MSD

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8321A for Hexachlorophene.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No hexachlorophene was found in the method blanks.

Sample FB_041411_19 was identified as a field blank. No hexachlorophene was found in this blank.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14655-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Data Qualification Summary - SDG 280-14655-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14655-1	HAR-15_041411_01 HAR-09_041411_01 HAR-11_041411_01 HAR-20_041411_01 FB_041411_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Laboratory Blank Data Qualification Summary - SDG 280-14655-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Field Blank Data Qualification Summary - SDG 280-14655-1**

No Sample Data Qualified in this SDG

LDC #: 25421B44

VALIDATION COMPLETENESS WORKSHEET

Date: 5/12/11

SDG #: 280-14655-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JG

2nd Reviewer: 

METHOD: LC/MS Hexachlorophene (EPA SW 846 Method 8321A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/19/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	FB = 5

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

W A T E Y

1	HAR-15_041411_01	11	MB 280-62639/10	21	31
2	HAR-09_041411_01	12		22	32
3	HAR-11_041411_01	13		23	33
4	HAR-20_041411_01	14		24	34
5	FB_041411_19	15		25	35
6	HAR-15_041411_01MS	16		26	36
7	HAR-15_041411_01MSD	17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 14, 2011

LDC Report Date: May 16, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14655-1/A1D150429

Sample Identification

HAR-15_041411_01
HAR-31_041411_01
HAR-09_041411_01
HAR-11_041411_01
HAR-20_041411_01
FB_041411_19

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

Sample FB_041411_19 was identified as a field blank. No formaldehyde was found in this blank.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14655-1/A1D150429	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Data Qualification Summary - SDG 280-14655-1/A1D150429**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14655-1/ A1D150429	HAR-15_041411_01 HAR-31_041411_01 HAR-09_041411_01 HAR-11_041411_01 HAR-20_041411_01 FB_041411_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-14655-1/A1D150429**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Field Blank Data Qualification Summary - SDG 280-14655-1/A1D150429**

No Sample Data Qualified in this SDG

LDC #: 25421B71 **VALIDATION COMPLETENESS WORKSHEET**

SDG #: 280-14655-1/A1D150429

Level V

Laboratory: Test America, Inc.

Date: 5/13/11

Page: 1 of 1

Reviewer: DVG

2nd Reviewer: [Signature]

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/14/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	A	LCS
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	TB = 6

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	HAR-15_041411_01	11	1106016-MB	21		31	
2	HAR-31_041411_01	12		22		32	
3	HAR-09_041411_01	13		23		33	
4	HAR-11_041411_01	14		24		34	
5	HAR-20_041411_01	15		25		35	
6	FB_041411_19	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 14, 2011

LDC Report Date: May 16, 2011

Matrix: Water

Parameters: Hydrazines

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14655-1

Sample Identification

HAR-15_041411_01
HAR-31_041411_01
HAR-09_041411_01
HAR-11_041411_01
HAR-20_041411_01
FB_041411_19

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DVWC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazine contaminants were found in the method.

Sample FB_041411_19 was identified as a field blank. No hydrazine contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14655-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-14655-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14655-1	HAR-15_041411_01 HAR-31_041411_01 HAR-09_041411_01 HAR-11_041411_01 HAR-20_041411_01 FB_041411_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-14655-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-14655-1**

No Sample Data Qualified in this SDG

LDC #: 25421B76
 SDG #: 280-14655-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/13/11
 Page: 1 of 1
 Reviewer: N/G
 2nd Reviewer:

METHOD: HPLC Hydrazines (Method DVWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/14/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	A	LCS / D
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	FB = 6

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: Water

1	HAR-15_041411_01	11	MB 280-63109/33	21		31	
2	HAR-31_041411_01	12		22		32	
3	HAR-09_041411_01	13		23		33	
4	HAR-11_041411_01	14		24		34	
5	HAR-20_041411_01	15		25		35	
6	FB_041411_19	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

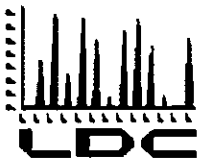
Notes: _____

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1, 2, 6	W	Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
3-5	W	Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine

Comments: _____



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 19, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

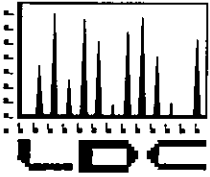
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 6, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25421:

<u>SDG #</u>	<u>Fraction</u>
280-14519-1/IUD1539 280-14655-1/IUD1667	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Polynuclear Aromatic Hydrocarbons, Pentachlorophenol, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, Ethylene Dibromide, Formaldehyde, Hexachloroethane, Organophosphorus Pesticides, Hydrazine
280-14758-1	Volatiles, 1,4-Dioxane, Semivolatiles, N-Nitrosodimethylamine, Wet Chemistry, Diesel Range Organics, Formaldehyde, Hydrazine

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004



- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Pei Geng'.

Pei Geng
Project Manager/Senior Chemist

LDC #25421 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane 8260B-S		1,2,3-TCP (524.2)		SVOA (8270C)		PAHs (8270C -SIM)		PCP (8270C -LL)		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (OK-DEQ)		EDB (504.1)		Formaldehyde (8315)		Hexachloroethane (8321A)		OPHS Pest. (8141A)		Herbs (8151A)			
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S		
Matrix: Water/Soil																																							
A	280-14519-1/ IUD1539	05/06/11	05/27/11	13	0	12	0	6	0	9	0	2	0	4	0	9	0	4	0	8	0	5	0	9	0	8	0	5	0	7	0	4	0	4	0	4	0		
B	280-14655-1/ IUD1667	05/06/11	05/27/11	10	0	10	0	9	0	6	0	-	5	0	5	0	6	0	5	0	5	0	6	0	6	0	6	0	6	0	5	0	5	0	5	0	5	0	
C	280-14758-1	05/06/11	05/27/11	8	0	8	0	-	-	6	0	-	-	-	6	0	-	-	-	-	-	-	-	-	5	0	-	-	5	0	-	-	-	-	-	-	-	-	
Total																																							
		T/PG		31	0	30	0	15	0	21	0	2	0	9	0	20	0	9	0	13	0	11	0	15	0	19	0	14	0	18	0	9	0	9	0	9	0	9	254

LDC #25421 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydrazine (DVWC)		Alk. (2320B)		NH ₃ -N (350.1)		Cl SO ₄ (300.0)		Br NO ₂ O-PO ₄		F NO ₃ (300.0)		Cr(VI) (7196A)		Diss. Cr(VI) (7196A)		CN- (9012A)		Cond. (2510B)		ClO ₂ (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)		S= (4500 -S2-D)					
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S		
Matrix: Water/Soil																																									
A	280-14519-1/ A1D130522	05/06/11	05/27/11	4	0	2	0	4	0	3	0	5	0	5	0	2	0	2	0	7	0	2	0	2	0	4	0	3	0	5	0	3	0	3	0	3	0	3	0	4	0
B	280-14655-1/ A1D150429	05/06/11	05/27/11	6	0	3	0	3	0	3	0	6	0	3	0	-	-	6	0	1	0	1	0	5	0	3	0	6	0	6	0	3	0	3	0	3	0	5	0	5	0
C	280-14758-1/ A1D190605	05/06/11	05/27/11	6	0	1	0	1	0	-	-	6	0	-	-	-	-	6	0	-	-	-	-	-	-	-	-	6	0	6	0	-	-	-	-	-	-	-	-	-	
Total																																									
		T/PG		16	0	6	0	8	0	6	0	17	0	8	0	2	0	19	0	3	0	3	0	9	0	6	0	17	0	17	0	6	0	6	0	6	0	6	0	9	158

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 18, 2011

LDC Report Date: May 16, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14758-1

Sample Identification

RD-05A_041811_01
RD-05B_041811_01
RD-05C_041811_01
TB_RD-05C_041811
RD-06_041811_01
RD-68A_041811_01
TB_RD-68A_041811
RD-68B_041811_01
RD-05A_041811_01MS
RD-05A_041811_01MSD

Introduction

This data review covers 10 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Samples TB_RD-05C_041811 and TB_RD-68A_041811 were identified as trip blanks. No volatile contaminants were found in these blanks with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
TB_RD-05C_041811	4/18/11	Acetone	24 ug/L	RD-05A_041811_01 RD-05B_041811_01 RD-05C_041811_01 RD-06_041811_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
RD-05A_041811_01	Toluene-d8	111 (88-110)	All TCL compounds	J (all detects)	A
RD-68B_041811_01	1,2-Dichloroethane-d4	122 (80-120)	All TCL compounds	J (all detects)	A

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
RD-05A_041811_01MS/MSD (RD-05A_041811_01)	Carbon tetrachloride	124 (80-120)	-	-	J (all detects)	A

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D 280-63944-5,6 (All samples in SDG 280-14758-1)	Benzene	-	74 (77-120)	-	J (all detects) UJ (all non-detects)	P

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14758-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-14758-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14758-1	RD-05A_041811_01 RD-68B_041811_01	All TCL compounds	J (all detects)	A	Surrogate spikes (%R) (S)
280-14758-1	RD-05A_041811_01	Carbon tetrachloride	J (all detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
280-14758-1	RD-05A_041811_01 RD-05B_041811_01 RD-05C_041811_01 TB_RD-05C_041811 RD-06_041811_01 RD-68A_041811_01 TB_RD-68A_041811 RD-68B_041811_01	Benzene	J (all detects) UJ (all non-detects)	P	Laboratory control samples (%R) (L)
280-14758-1	RD-05A_041811_01 RD-05B_041811_01 RD-05C_041811_01 TB_RD-05C_041811 RD-06_041811_01 RD-68A_041811_01 TB_RD-68A_041811 RD-68B_041811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-14758-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-14758-1**

No Sample Data Qualified in this SDG

LDC #: 25421C1a
 SDG #: 280-14758-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/12/11
 Page: 1 of 1
 Reviewer: SVG
 2nd Reviewer: A

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/18/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	SW	LCS 1/b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	TB = 4, 7*

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 *ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	RD-05A_041811_01	11	MB 280-63944/7	21	31
2	RD-05B_041811_01	12		22	32
3	RD-05C_041811_01	13		23	33
4	TB RD-05C_041811	14		24	34
5	RD-06_041811_01	15		25	35
6	RD-68A_041811_01	16		26	36
7	TB RD-68A_041811	17		27	37
8	RD-68B_041811_01	18		28	38
9	RD-05A_041811_01MS	19		29	39
10	RD-05A_041811_01MSD	20		30	40

VOCs = 1-3, 6-8
 VOCs + IPA = 4, 5

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC. 1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl chloride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JUU. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethyvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 18, 2011

LDC Report Date: May 16, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14758-1

Sample Identification

RD-05A_041811_01
RD-05B_041811_01
RD-05C_041811_01
TB_RD-05C_041811
RD-06_041811_01
RD-68A_041811_01
TB_RD-68A_041811
RD-68B_041811_01

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-dioxane was found in the method blanks.

Samples TB_RD-05C_041811 and TB_RD-68A_041811 were identified as trip blanks. No 1,4-dioxane was found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14758-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-14758-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14758-1	RD-05A_041811_01 RD-05B_041811_01 RD-05C_041811_01 TB_RD-05C_041811 RD-06_041811_01 RD-68A_041811_01 TB_RD-68A_041811 RD-68B_041811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-14758-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-14758-1**

No Sample Data Qualified in this SDG

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/18/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS 1b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 4, 7

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	RD-05A_041811_01	11	MB 280-63854/12	21	31
2	RD-05B_041811_01	12		22	32
3	RD-05C_041811_01	13		23	33
4	TB_RD-05C_041811	14		24	34
5	RD-06_041811_01	15		25	35
6	RD-68A_041811_01	16		26	36
7	TB_RD-68A_041811	17		27	37
8	RD-68B_041811_01	18		28	38
9		19		29	39
10		20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 18, 2011

LDC Report Date: May 16, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14758-1

Sample Identification

RD-05A_041811_01
RD-05B_041811_01
RD-05C_041811_01
RD-06_041811_01
RD-68A_041811_01
RD-68B_041811_01

Introduction

This data review covers 6 water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14758-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-14758-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14758-1	RD-05A_041811_01 RD-05B_041811_01 RD-05C_041811_01 RD-06_041811_01 RD-68A_041811_01 RD-68B_041811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-14758-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-14758-1**

No Sample Data Qualified in this SDG

LDC #: 25421C2a
 SDG #: 280-14758-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/12/11
 Page: 1 of 1
 Reviewer: NG
 2nd Reviewer: A

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/18/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LG/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	RD-05A_041811_01	11	NB 280-63078/1-A	21	31
2	RD-05B_041811_01	12		22	32
3	RD-05C_041811_01	13		23	33
4	RD-06_041811_01	14		24	34
5	RD-68A_041811_01	15		25	35
6	RD-68B_041811_01	16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

NB = 1-3
 Phthalates + NB = 4-6

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 18, 2011

LDC Report Date: May 17, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14758-1

Sample Identification

RD-05A_041811_01
RD-05B_041811_01
RD-05C_041811_01
RD-06_041811_01
RD-68A_041811_01
RD-68B_041811_01

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-nitrosodimethylamine was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14758-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-14758-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14758-1	RD-05A_041811_01 RD-05B_041811_01 RD-05C_041811_01 RD-06_041811_01 RD-68A_041811_01 RD-68B_041811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary – SDG 280-14758-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-14758-1**

No Sample Data Qualified in this SDG

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/18/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS 1p
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

1	RD-05A_041811_01	11	MD 280-63059/21	21	31
2	RD-05B_041811_01	12		22	32
3	RD-05C_041811_01	13		23	33
4	RD-06_041811_01	14		24	34
5	RD-68A_041811_01	15		25	35
6	RD-68B_041811_01	16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 18, 2011

LDC Report Date: May 12, 2011

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14758-1

Sample Identification

RD-05A_041811_01
RD-05B_041811_01
RD-05C_041811_01
RD-06_041811_01
RD-68A_041811_01
RD-68B_041811_01
RD-05A_041811_01DUP
RD-05B_041811_01MS
RD-05B_041811_01MSD
RD-05B_041811_01DUP

Introduction

This data review covers 10 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 350.1 for Ammonia as Nitrogen, EPA Method 300.0 for Fluoride and Nitrate, EPA Method 314.0 for Perchlorate and EPA SW846 Method 9040B for pH.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

Raw data were not reviewed for this SDG. The review was based on QC data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks.

No field blanks were identified in this SDG.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-14758-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-14758-1**

SDG	Sample	Analyte	Flag	A or P	Reason
280-14758-1	RD-05A_041811_01 RD-05B_041811_01 RD-05C_041811_01 RD-06_041811_01 RD-68A_041811_01 RD-68B_041811_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-14758-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-14758-1**

No Sample Data Qualified in this SDG

LDC #: 25421C6
 SDG #: 280-14758-1
 Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5-11-11

Page: 1 of 1

Reviewer: MG

2nd Reviewer: LA

SMJ

350.1

METHOD: (Analyte) Ammonia-N (EPA Method 350.1), Fluoride, Nitrate-X (EPA Method 300.0), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4-18-11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS / MSD
V	Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS / LCSD
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

all water

1	RD-05A_041811_01	11		21		31	
2	RD-05B_041811_01	12		22		32	
3	RD-05C_041811_01	13		23		33	
4	RD-06_041811_01	14		24		34	
5	RD-68A_041811_01	15		25		35	
6	RD-68B_041811_01	16		26		36	
7	RD-05A_041811_01DUP	17		27		37	
8	RD-05B_041811_01MS	18		28		38	
9	RD-05B_041811_01MSD	19	PBW1	29		39	
10	RD-05B_041811_01DUP	20	PBW2	30		40	

Notes: _____

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1 → 6	W	(pH) TDS Cl (F) (NO ₃) NO ₂ SO ₄ PO ₄ ALK CN (NH ₃) TKN TOC CR ⁶⁺ (ClO ₄)
ac 7	↓	(pH) TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
↓ 8 → 10	↓	pH TDS Cl (F) (NO ₃) NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄

Comments: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 18, 2011

LDC Report Date: May 17, 2011

Matrix: Water

Parameters: Diesel Range Organics

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14758-1

Sample Identification

RD-05A_041811_01
RD-05B_041811_01
RD-05C_041811_01
RD-68A_041811_01
RD-68B_041811_01

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Diesel Range Organics.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No diesel range organic contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14758-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Data Qualification Summary - SDG 280-14758-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14758-1	RD-05A_041811_01 RD-05B_041811_01 RD-05C_041811_01 RD-68A_041811_01 RD-68B_041811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Laboratory Blank Data Qualification Summary - SDG 280-14758-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Field Blank Data Qualification Summary - SDG 280-14758-1**

No Sample Data Qualified in this SDG

LDC #: 25421C8
 SDG #: 280-14758-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/13/11
 Page: 1 of 1
 Reviewer: NG
 2nd Reviewer: A

METHOD: GC Diesel Range Organics (8015 B Oklahoma Department of Environmental Quality)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/18/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	LCS 1b
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

1	RD-05A_041811_01	11	MB 280-62991 / LA-21	21	31
2	RD-05B_041811_01	12		22	32
3	RD-05C_041811_01	13		23	33
4	RD-68A_041811_01	14		24	34
5	RD-68B_041811_01	15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 18, 2011

LDC Report Date: May 17, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14758-1

Sample Identification

RD-05A_041811_01
RD-05B_041811_01
RD-05C_041811_01
RD-06_041811_01
RD-68B_041811_01
RD-05A_041811_01MS
RD-05A_041811_01MSD

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG280-14758-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Sample RD-68A_041811_01 was not analyzed, vial was received broken.

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Formaldehyde - Data Qualification Summary - SDG 280-14758-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14758-1	RD-05A_041811_01 RD-05B_041811_01 RD-05C_041811_01 RD-06_041811_01 RD-68B_041811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-14758-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Formaldehyde - Field Blank Data Qualification Summary - SDG 280-14758-1**

No Sample Data Qualified in this SDG

LDC #: 25421C71
 SDG #: 280-14758-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/13/11
 Page: 1 of 1
 Reviewer: JVG
 2nd Reviewer: [Signature]

METHOD: HPLC Formaldehyde (EPA SW 846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/18/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	A	
VII.	Laboratory control samples	A	LCS
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	SW	RD-68A_041811-01 not analyzed, vial broken (Tpx)
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

1	RD-05A_041811_01	11	1110075 - mb	21		31	
2	RD-05B_041811_01	12		22		32	
3	RD-05C_041811_01	13		23		33	
4	RD-06_041811_01	14		24		34	
5	RD-68B_041811_01	15		25		35	
6	RD-05A_041811_01MS	16		26		36	
7	RD-05A_041811_01MSD	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: (RD-68A - broken)

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 18, 2011
LDC Report Date: May 16, 2011
Matrix: Water
Parameters: Hydrazines
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14758-1

Sample Identification

RD-05A_041811_01
RD-05B_041811_01
RD-05C_041811_01
RD-06_041811_01
RD-68A_041811_01
RD-68B_041811_01
RD-05A_041811_01MS
RD-05A_041811_01MSD

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DVWC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazine contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG280-14758-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-14758-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14758-1	RD-05A_041811_01 RD-05B_041811_01 RD-05C_041811_01 RD-06_041811_01 RD-68A_041811_01 RD-68B_041811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-14758-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-14758-1**

No Sample Data Qualified in this SDG

LDC #: 25421C76
 SDG #: 280-14758-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/13/11
 Page: 1 of 1
 Reviewer: JLC
 2nd Reviewer: JLC

METHOD: HPLC Hydrazines (Method DVWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/18/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	A	
VII.	Laboratory control samples	A	UCS 1b
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

1	RD-05A_041811_01	11	MB 280-63108/25	21	31
2	RD-05B_041811_01	12		22	32
3	RD-05C_041811_01	13		23	33
4	RD-06_041811_01	14		24	34
5	RD-68A_041811_01	15		25	35
6	RD-68B_041811_01	16		26	36
7	RD-05A_041811_01MS	17		27	37
8	RD-05A_041811_01MSD	18		28	38
9		19		29	39
10		20		30	40

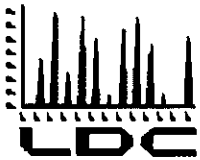
Notes: _____

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter		
1-3	W	Hydrazine	<u>1,1-Dimethylhydrazine</u>	Monomethyl Hydrazine
5, 6		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
4	W	<u>Hydrazine</u>	<u>1,1-Dimethylhydrazine</u>	<u>Monomethyl Hydrazine</u>
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine

Comments: _____



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 27, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

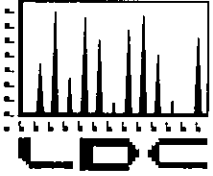
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 10, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25435:

<u>SDG #</u>	<u>Fraction</u>
280-14484-1/ IUD1261/ A1D120533 280-14702-1/ IUD1801/ A1D160428	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Pentachlorophenol, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane, Organophosphorus Pesticides, Hexachloroethane, Formaldehyde, Hydrazine
280-14702-2 280-14817-2	N-Nitrosodimethylamine, Perchlorate
280-14837-1/ H1D210424 280-14869-1/ H1D220445 280-14944-1/ H1D230409	Dioxins/Dibenzofurans
280-14927-2 280-15126-2 280-15184-2	N-Nitrosodimethylamine

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010



- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

Client Select IV LDC #25435 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane 8260B-S		1,2,3-TCP (524.2)		SVOA (8270C -SIM)		PCP (8270C -LL)		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (8015B)		EDB (504.1)		Formaldehyde (8315)		Hexachloro-rophene (8321A)		OPHS Pest. (8141A)		Herbs (8151A)					
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S				
Matrix: Water/Soil																																							
A	280-14484-1/ IUD1261/ A1D120533	05/10/11	06/01/11	11	0	10	0	6	0	7	0	2	0	4	0	7	0	4	0	6	0	5	0	7	0	3	0	6	0	5	0	4	0	4	0	4	0		
B	280-14702-1/ IUD1801/ A1D160428	05/10/11	06/01/11	11	0	10	0	7	0	7	0	-	4	0	7	0	4	0	4	0	4	0	7	0	6	0	7	0	7	0	4	0	4	0	4	0	4	0	
C	280-14702-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	5	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
D	280-14817-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
G	280-14927-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
I	280-15126-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
J	280-15184-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total				22	0	20	0	13	0	14	0	2	0	8	0	31	0	8	0	10	0	12	0	14	0	9	0	13	0	12	0	8	0	8	0	8	0	8	213

Client Select IV LDC #25435 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydra-zine (DVWC)		CLO ₄ (6860)		Dioxins (8290)		Alk. (2320B)		NH ₃ -N (350.1)		CI SO ₄ (300.0)		NO ₂ O-PO ₄		F NO ₂ (300.0)		CN- (9012A)		Cond. (2510B)		CLO ₄ (314.0)		pH (9040B)		Turb. (180.1)		TDS (4500 -S2 D)		S= (2540C)			
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
Matrix: Water/Soil																																							
A	280-14484-1	05/10/11	06/01/11	1	0	-	-	-	-	-	-	-	-	2	0	5	0	4	0	2	0	7	0	4	0	2	0	5	0	5	0	2	0	2	0	2	0	4	0
B	280-14702-1	05/10/11	06/01/11	7	0	2	0	2	0	-	-	-	-	6	0	7	0	6	0	-	-	7	0	4	0	6	0	7	0	7	0	6	0	6	0	6	0	4	0
C	280-14702-2	05/10/11	06/01/11	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D	280-14817-2	05/10/11	06/01/11	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E	280-14837-1/ H1D210424	05/10/11	06/01/11	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
F	280-14869-1/ H1D220445	05/10/11	06/01/11	-	-	-	-	-	-	-	-	5	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	280-14944-1/ H1D230409	05/10/11	06/01/11	-	-	-	-	-	-	-	-	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total				8	0	2	0	2	0	3	0	11	0	8	0	12	0	10	0	2	0	14	0	8	0	8	0	12	0	12	0	8	0	8	0	8	0	8	136

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 11, 2011

LDC Report Date: May 19, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14484-1

Sample Identification

SH-09_041111_01
TB_SH-09_041111
RD-08_041111_01
RD-11_041111_01
TB_RD-11_041111
RD-12_041111_01
PZ-149_041111_01
EB_PZ-149_041111
TB_PZ-149_041111
RD-41A_041111_01
TB_RD-41A_041111
PZ-149_041111_01MS
PZ-149_041111_01MSD

Introduction

This data review covers 13 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-62653/5	4/16/11	Acetone Methylene chloride	3.46 ug/L 1.76 ug/L	PZ-149_041111_01 EB_PZ-149_041111 TB_PZ-149_041111

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
PZ-149_041111_01	Acetone Methylene chloride	2.5 ug/L 0.45 ug/L	10U ug/L 1.0U ug/L
EB_PZ-149_041111	Acetone Methylene chloride	2.5 ug/L 0.59 ug/L	10U ug/L 1.0U ug/L
TB_PZ-149_041111	Acetone Methylene chloride	5.6 ug/L 1.2 ug/L	10U ug/L 1.2U ug/L

Samples TB_SH-09_041111, TB_RD-11_041111, TB_PZ-149_041111, and TB_RD41A_041111 were identified as trip blanks. No volatile contaminants were found in these blanks with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
TB_SH-09_041111	4/11/11	Methylene chloride	0.43 ug/L	SH-09_041111_01 RD-08_041111_01
TB_PZ-149_041111	4/11/11	Acetone Methylene chloride	5.6 ug/L 1.2 ug/L	PZ-149_041111_01 EB_PZ-149_041111

Samples EB_PZ-149_041111 and EB_SH-04_040711 (from SDG 280-14379-1) were identified as equipment blanks. No volatile contaminants were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-149_041111	4/11/11	Acetone Methylene chloride	2.5 ug/L 0.59 ug/L	PZ-149_041111_01

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No volatile contaminants were found in this blank.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-149_041111_01	Acetone Methylene chloride	2.5 ug/L 0.45 ug/L	10U ug/L 1.0U ug/L
EB_PZ-149_041111	Acetone Methylene chloride	2.5 ug/L 0.59 ug/L	10U ug/L 1.0U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
TB_SH-09_041111	Dibromofluoromethane	82 (86-118)	Acrolein Acrylonitrile	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P
RD-08_041111_01	Dibromofluoromethane	84 (86-118)	Acrolein Acrylonitrile	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P
RD-12_041111_01	Dibromofluoromethane	85 (86-118)	Acrolein Acrylonitrile	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P
PZ-149_041111_01	Dibromofluoromethane	83 (86-118)	Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects) UJ (all non-detects)	P
EB_PZ-149_041111	Dibromofluoromethane	85 (86-118)	Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects) UJ (all non-detects)	P
TB_PZ-149_041111	Dibromofluoromethane	83 (86-118)	Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects) UJ (all non-detects)	P
MB 280-62047/5	Dibromofluoromethane	83 (86-118)	Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects) UJ (all non-detects)	P

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14484-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-14484-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14484-1	TB_SH-09_041111 RD-08_041111_01 RD-12_041111_01	Acrolein Acrylonitrile	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P	Surrogate spikes (%R) (S)
280-14484-1	PZ-149_041111_01 EB_PZ-149_041111 TB_PZ-149_041111	Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects) UJ (all non-detects)	P	Surrogate spikes (%R) (S)
280-14484-1	SH-09_041111_01 TB_SH-09_041111 RD-08_041111_01 RD-11_041111_01 TB_RD-11_041111 RD-12_041111_01 PZ-149_041111_01 EB_PZ-149_041111 TB_PZ-149_041111 RD-41A_041111_01 TB_RD-41A_041111	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-14484-1**

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-14484-1	PZ-149_041111_01	Acetone Methylene chloride	10U ug/L 1.0U ug/L	A	B
280-14484-1	EB_PZ-149_041111	Acetone Methylene chloride	10U ug/L 1.0U ug/L	A	B
280-14484-1	TB_PZ-149_041111	Acetone Methylene chloride	10U ug/L 1.2U ug/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-14484-1**

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-14484-1	PZ-149_041111_01	Acetone Methylene chloride	10U ug/L 1.0U ug/L	A	T, F
280-14484-1	EB_PZ-149_041111	Acetone Methylene chloride	10U ug/L 1.0U ug/L	A	T

LDC #: 25435A1a

VALIDATION COMPLETENESS WORKSHEET

Date: 5/16/11

SDG #: 280-14484-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: *[Signature]*

2nd Reviewer: *[Signature]*

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/11/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS / D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	TB = 2, 5, 9, 11 * EB = 8, EB_SH-04_040711 *

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

*ND = No compounds detected
 R = Rinsate
 FB = Field blank

*FB = FB_041411-19 (280-4655-1)
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

(280-14379-1)

Validated Samples:

Water

1	SH-09_041111_01	11	TB_RD-41A_041111	21	MB 280-62047/5	31	FAFF, 6666, II)
2	TB_SH-09_041111	12	PZ-149_041111_01MS	22	MB 280-62652/5	32	
3	RD-08_041111_01	13	PZ-149_041111_01MSD	23	MB 280-62876/6	33	
4	RD-11_041111_01	14		24		34	
5	TB_RD-11_041111	15		25		35	
6	RD-12_041111_01	16		26		36	
7	PZ-149_041111_01	17		27		37	
8	EB_PZ-149_041111	18		28		38	
9	TB_PZ-149_041111	19		29		39	
10	RD-41A_041111_01	20		30		40	

8260 APPX, A+A = 1-6
 8260 STD W = 7-9
 VOCs = 10, 11

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC. 1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl chloride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methylacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

VALIDATION FINDINGS WORKSHEET
Surrogate Spikes

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A
Were all surrogate %R within QC limits?

Y N N/A
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R out of outside of criteria?

#	Date	Sample ID	Surrogate	%Recovery (Limits)	Qualifications
2			DFM	82 (86-118)	J/MS/P (qual FFFF, 6666)
3				84 ()	
6				85 ()	
7				83 ()	(qual FFFF, 6666, DI)
8				85 ()	
9				83 ()	
		MB 280 62047 / 5		83 ()	
				()	
				()	
				()	
				()	
				()	
				()	
				()	
				()	
				()	
				()	
				()	
				()	

QC Limits (Soil)
85-115
85-120
60-120
75-125

QC Limits (Water)
85-120
75-120
70-120
85-115

SMC1 (TOL) = Toluene-d8
SMC2 (BFB) = Bromofluorobenzene
SMC3 (DCE) = 1,2-Dichloroethane-d4
SMC4 (DFM) = Dibromofluoromethane

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 11, 2011

LDC Report Date: May 18, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14484-1

Sample Identification

SH-09_041111_01
TB_SH-09_041111
RD-08_041111_01
RD-11_041111_01
TB_RD-11_041111
RD-12_041111_01
PZ-149_041111_01
EB_PZ-149_041111
TB_PZ-149_041111
RD-41A_041111_01

Introduction

This data review covers 10 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-dioxane was found in the method blanks.

Samples TB_SH-09_041111, TB_RD-11_041111, and TB_PZ-149_041111 were identified as trip blanks. No 1,4-dioxane was found in these blanks.

Samples EB_PZ-149_041111 and EB_SH-04_040711 (from SDG 280-14379-1) were identified as equipment blanks. No 1,4-dioxane was found in these blanks.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No 1,4-dioxane was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14484-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-14484-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14484-1	SH-09_041111_01 TB_SH-09_041111 RD-08_041111_01 RD-11_041111_01 TB_RD-11_041111 RD-12_041111_01 PZ-149_041111_01 EB_PZ-149_041111 TB_PZ-149_041111 RD-41A_041111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-14484-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-14484-1**

No Sample Data Qualified in this SDG

LDC #: 25435A1b

VALIDATION COMPLETENESS WORKSHEET

Date: 5/16/11

SDG #: 280-14484-1

Level V

Page: 1 of 1

Laboratory: Test America Laboratories, Inc.

Reviewer: JVG

2nd Reviewer: [Signature]

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/1/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS / D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 2 5 9 EB = 8, EB_SH-04_040711 (280-1437)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	SH-09_041111_01	11	MB 280-62871/5	21		31	
2	TB_SH-09_041111	12		22		32	
3	RD-08_041111_01	13		23		33	
4	RD-11_041111_01	14		24		34	
5	TB_RD-11_041111	15		25		35	
6	RD-12_041111_01	16		26		36	
7	PZ-149_041111_01	17		27		37	
8	EB_PZ-149_041111	18		28		38	
9	TB_PZ-149_041111	19		29		39	
10	RD-41A_041111_01	20		30		40	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 11, 2011

LDC Report Date: May 18, 2011

Matrix: Water

Parameters: 1,2,3-Trichloropropane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14484-1/IUD1261

Sample Identification

SH-09_041111_01
TB_SH-09_041111
RD-08_041111_01
RD-11_041111_01
TB_RD-11_041111
RD-12_041111_01
SH-09_041111_01DUP

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-trichloropropane was found in the method blanks.

Sample TB_SH-09_041111 was identified as a trip blank. No 1,2,3-trichloropropane was found in this blank.

Sample EB_SH-04_040711 (from SDG 280-14379-1) were identified as equipment blanks. No 1,2,3-trichloropropane was found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No 1,2,3-trichloropropane was found in this blank.

VI. Surrogate Spikes

Surrogate spikes were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Raw data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG280-14484-1/IUD1261	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011

1,2,3-Trichloropropane - Data Qualification Summary - SDG 280-14484-1/IUD1261

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14484-1/IUD1261	SH-09_041111_01 TB_SH-09_041111 RD-08_041111_01 RD-11_041111_01 TB_RD-11_041111 RD-12_041111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011

1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG 280-14484-1/IUD1261

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011

1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG 280-14484-1/IUD1261

No Sample Data Qualified in this SDG

METHOD: GC/MS 1,2,3-Trichloropropane (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/11/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates / Lab Dup	N/A	
VIII.	Laboratory control samples <i>E</i>	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 2 EB = EB-SH-04_040711 (280-14379-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

FB = FB_041911-19 (250-14655-1)
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1 ⁺	SH-09_041111_01	11	11 D1813 - Blk1	21	31
2 ⁻	TB_SH-09_041111	12		22	32
3 ⁻	RD-08_041111_01	13		23	33
4 ⁻	RD-11_041111_01	14		24	34
5 ⁻	TB_RD-11_041111	15		25	35
6 ⁻	RD-12_041111_01	16		26	36
7 ⁻	SH-09_041111_01DUP	17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 11, 2011

LDC Report Date: May 18, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14484-1

Sample Identification

SH-09_041111_01
RD-08_041111_01
RD-11_041111_01
RD-12_041111_01
PZ-149_041111_01
EB_PZ-149_041111
RD-41A_041111_01

Introduction

This data review covers 7 water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

Samples EB_PZ-149_041111 and EB_SH-04_040711 (from SDG 280-14379-1) were identified as equipment blanks. No semivolatiles were found in these blanks.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No semivolatiles were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG280-14484-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-14484-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14484-1	SH-09_041111_01 RD-08_041111_01 RD-11_041111_01 RD-12_041111_01 PZ-149_041111_01 EB_PZ-149_041111 RD-41A_041111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-14484-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-14484-1**

No Sample Data Qualified in this SDG

LDC #: 25435A2a

VALIDATION COMPLETENESS WORKSHEET

Date: 5/16/11

SDG #: 280-14484-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JV6

2nd Reviewer: [Signature]

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/11/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	MS 1/2
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	EB = 6, EB-SH-09_040711 (280-14579-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

FB = FB-041411-19 (280-14655-1)
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: water

1	SH-09_041111_01	11	NB 280-61888 1-A	21		31
2	RD-08_041111_01	12		22		32
3	RD-11_041111_01	13		23		33
4	RD-12_041111_01	14		24		34
5	PZ-149_041111_01	15		25		35
6	EB_PZ-149_041111	16		26		36
7	RD-41A_041111_01	17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

8270 APP IX = 1-4
 8270 Full Water = 5, 6
 NB = 7

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 11, 2011
LDC Report Date: May 18, 2011
Matrix: Water
Parameters: N-Nitrosodimethylamine
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14484-1

Sample Identification

SH-09_041111_01
RD-08_041111_01
RD-11_041111_01
RD-12_041111_01
PZ-149_041111_01
EB_PZ-149_041111
RD-41A_041111_01

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-nitrosodimethylamine was found in the method blanks.

Samples EB_PZ-149_041111 and EB_SH-04_040711 (from SDG 280-14379-1) were identified as equipment blanks. No N-nitrosodimethylamine was found in these blanks.

Samples FB_041411_19, (from SDG 280-14655-1) and FB_SH-09_041111_19 (from SDG 280-14484-2) were identified as field blanks. No N-nitrosodimethylamine was found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14484-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples SH-09_041111_01 and SH-09_041111_36 (from SDG 280-14484-2) were identified as field duplicates. No N-nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	SH-09_041111_01	SH-09_041111_36			
N-nitrosodimethylamine	0.010	0.0084	17 (≤35)	-	-

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-14484-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14484-1	SH-09_041111_01 RD-08_041111_01 RD-11_041111_01 RD-12_041111_01 PZ-149_041111_01 EB_PZ-149_041111 RD-41A_041111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary – SDG 280-14484-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-14484-1**

No Sample Data Qualified in this SDG

LDC #: 25435A2b
 SDG #: 280-14484-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/16/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/11/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D = 1 + SH-09-041111-36 (280-14484-2)
XVII.	Field blanks	ND	EB = 6; EB-SH-04-040711 (280-14379-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

FB = FB-041911-19 (280-19655-1); FB-SH-09-041111-19 (280-14484-2)
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

#						
1	SH-09_041111_01	11	MB 280-62133/A	21		31
2	RD-08_041111_01	12		22		32
3	RD-11_041111_01	13		23		33
4	RD-12_041111_01	14		24		34
5	PZ-149_041111_01	15		25		35
6	EB_PZ-149_041111	16		26		36
7	RD-41A_041111_01	17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GC MS NDMA (EPA Method 1625M)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent Only)
	SH-09_041111_01	SH-09_041111_36		
NDMA	0.010	0.0084	17	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 11, 2011

LDC Report Date: May 19, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14484-1

Sample Identification

PZ-149_041111_01
EB_PZ-149_041111

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per a modification of EPA SW 846 Method 8270C using Selected Ion Monitoring (SIM) for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-62312/1-A	4/14/11	Di-n-octylphthalate	0.109 ug/L	All samples in SDG 280-14484-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
PZ-149_041111_01	Di-n-octylphthalate	0.20 ug/L	9.9U ug/L
EB_PZ-149_041111	Di-n-octylphthalate	0.13 ug/L	10U ug/L

Sample EB_PZ-149_041111 was identified as an equipment blank. No semivolatile contaminants were found in this blank with the following exceptions:

Equipment BlankID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-149_041111	4/11/11	Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	0.012 ug/L 0.019 ug/L 0.13 ug/L	PZ-149_041111_01

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No semivolatile contaminants were found in this blank.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-149_041111_01	Di-n-butylphthalate Di-n-octylphthalate	0.057 ug/L 0.20 ug/L	9.9U ug/L 9.9U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14484-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles- Data Qualification Summary - SDG 280-14484-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14484-1	PZ-149_041111_01 EB_PZ-149_041111	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles- Laboratory Blank Data Qualification Summary - SDG 280-14484-1**

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-14484-1	PZ-149_041111_01	Di-n-octylphthalate	9.9U ug/L	A	B
280-14484-1	EB_PZ-149_041111	Di-n-octylphthalate	10U ug/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles- Field Blank Data Qualification Summary - SDG 280-14484-1**

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-14484-1	PZ-149_041111_01	Di-n-butylphthalate Di-n-octylphthalate	9.9U ug/L 9.9U ug/L	A	F

LDC #: 25435A2c

VALIDATION COMPLETENESS WORKSHEET

Date: 5/16/11

SDG #: 280-14484-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: SV

2nd Reviewer: [Signature]

METHOD: GC/MS ^{Semivolatiles} Polynuclear Aromatic Hydrocarbons (EPA SW846 Method 8270C-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/11/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	ICS 1b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	EB = 2 FB = FB-041411-19 (280-14655-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

*ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	PZ-149_041111_01	11	MB 280-62312/1-A	21	31
2	EB_PZ-149_041111	12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis(2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes: * = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 11, 2011

LDC Report Date: May 19, 2011

Matrix: Water

Parameters: Pentachlorophenol

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14484-1

Sample Identification

SH-09_041111_01

RD-08_041111_01

RD-11_041111_01

RD-12_041111_01

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Pentachlorophenol.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No pentachlorophenol was found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No pentachlorophenol was found in this blank.

Sample FB_040711_19 (from SDG 280-14655-1) was identified as a field blank. No pentachlorophenol was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14484-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Data Qualification Summary - SDG 280-14484-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14484-1	SH-09_041111_01 RD-08_041111_01 RD-11_041111_01 RD-12_041111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Laboratory Blank Data Qualification Summary - SDG 280-14484-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Field Blank Data Qualification Summary - SDG 280-14484-1**

No Sample Data Qualified in this SDG

LDC #: 25435A2d
 SDG #: 280-14484-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/16/11
 Page: 1 of 1
 Reviewer: JVG
 2nd Reviewer: [Signature]

METHOD: GC/MS Pentachlorophenol (EPA SW846 Method 8270C-~~1A~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/11/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS 1b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	EB = EB, SH-04, 040711 (280-14679-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

FB = FB-040711-1A (280-14655-1)
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	SH-09_041111_01	11	MB 280-61873/A	21		31	
2	RD-08_041111_01	12		22		32	
3	RD-11_041111_01	13		23		33	
4	RD-12_041111_01	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 11, 2011

LDC Report Date: May 19, 2011

Matrix: Water

Parameters: Chlorinated Pesticides

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14484-1

Sample Identification

SH-09_041111_01
RD-08_041111_01
RD-11_041111_01
RD-12_041111_01

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No chlorinated pesticide contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No chlorinated pesticide contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

Raw data were not reviewed for this SDG.

XIII. Compound Quantitation and Reported CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14484-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Data Qualification Summary - SDG 280-14484-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14484-1	SH-09_041111_01 RD-08_041111_01 RD-11_041111_01 RD-12_041111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 280-14484-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Field Blank Data Qualification Summary - SDG 280-14484-1**

No Sample Data Qualified in this SDG

LDC #: 25435A3a

VALIDATION COMPLETENESS WORKSHEET

Date: 5/16/11

SDG #: 280-14484-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JVG

2nd Reviewer: [Signature]

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/11/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples		KS/D
IX.	Regional quality assurance and quality control	N	
X.	Florisil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation and reported CRQLs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates	N	
XVI.	Field blanks	ND	EB = EB_SH-04_040711 (280-14379-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

FB = FB_041411-19 (280-14655-1)

Validated Samples:

Water

1 +	SH-09_041111_01	11	MB 280-62121 / 1-A	21	31
2 -	RD-08_041111_01	12		22	32
3 -	RD-11_041111_01	13		23	33
4 -	RD-12_041111_01	14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 11, 2011

LDC Report Date: May 19, 2011

Matrix: Water

Parameters: Polychlorinated Biphenyls

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14484-1

Sample Identification

SH-09_041111_01
RD-08_041111_01
RD-11_041111_01
RD-12_041111_01
PZ-149_041111_01
EB_PZ-149_041111

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

Sample EB_SH04_040711 (from SDG 280-14379-1) were identified as equipment blanks. No polychlorinated biphenyl contaminants were found in this blank.

Sample FB_041411_19 (280-14655-1) was identified as a field blank. No polychlorinated biphenyl contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14484-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Data Qualification Summary - SDG 280-14484-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14484-1	SH-09_041111_01 RD-08_041111_01 RD-11_041111_01 RD-12_041111_01 PZ-149_041111_01 EB_PZ-149_041111	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 280-14484-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG 280-14484-1**

No Sample Data Qualified in this SDG

LDC #: 25435A3b
 SDG #: 280-14484-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/16/11
 Page: 1 of 1
 Reviewer: WV
 2nd Reviewer: [Signature]

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/11/11</u>
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	<u>Client spec</u>
VIII.	Laboratory control samples	A	<u>LCS (D)</u>
IX.	Regional quality assurance and quality control	N	
X.	Florisil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation and reported CRQLs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates	N	
XVI.	Field blanks	ND	<u>EB = EB_SH-04_040711 (280-14379-1)</u> <u>FB = FB_041411-19 (280-14655-1)</u>

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	SH-09_041111_01	11	<u>MB 280-62121/1-A</u>	21		31
2	RD-08_041111_01	12		22		32
3	RD-11_041111_01	13		23		33
4	RD-12_041111_01	14		24		34
5	PZ-149_041111_01	15		25		35
6	EB_PZ-149_041111	16		26		36
7		17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 11, 2011
LDC Report Date: May 17, 2011
Matrix: Water
Parameters: Metals
Validation Level: Level V
Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14484-1

Sample Identification

SH-09_041111_01
RD-08_041111_01
RD-11_041111_01
RD-12_041111_01
RD-41A_041111_01
SH-09_041111_01F
RD-08_041111_01F
RD-11_041111_01F
RD-12_041111_01F
PZ-149_041111_01F
EB_PZ-149_041111F
RD-41A_041111_01F
RD-12_041111_01MS
RD-12_041111_01MSD
RD-41A_041111_01MS
RD-41A_041111_01MSD
SH-09_041111_01FMS
SH-09_041111_01FMSD
RD-08_041111_01FMS
RD-08_041111_01FMSD

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 20 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B, 6020, and 7000 for Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Boron	0.00518 mg/L	EB_PZ-149_041111F PZ-149_041111_01F
PB (prep blank)	Sodium	0.223 mg/L	SH-09_041111_01F PZ-149_041111_01F EB_PZ-149_041111F RD-41A_041111_01F
PB (prep blank)	Sodium	0.196 mg/L	SH-09_041111_01 RD-41A_041111_01
PB (prep blank)	Thallium	0.0000228 mg/L	SH-09_041111_01F RD-08_041111_01F RD-11_041111_01F RD-12_041111_01F PZ-149_041111_01F EB_PZ-149_041111F
PB (prep blank)	Tin	0.000287 mg/L	SH-09_041111_01F RD-08_041111_01F RD-11_041111_01F RD-12_041111_01F
PB (prep blank)	Tin Thallium	0.000334 mg/L 0.0000269 mg/L	SH-09_041111_01 RD-08_041111_01 RD-11_041111_01 RD-12_041111_01

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
EB_PZ-149_041111F	Boron Sodium	0.013 mg/L 0.30 mg/L	0.013U mg/L 0.30U mg/L
SH-09_041111_01F	Thallium Tin	0.000038 mg/L 0.00057 mg/L	0.000038U mg/L 0.00057U mg/L
RD-11_041111_01F	Thallium Tin	0.000035 mg/L 0.00045 mg/L	0.000035U mg/L 0.00045U mg/L
RD-08_041111_01F	Tin	0.00035 mg/L	0.00035U mg/L
RD-12_041111_01F	Tin	0.00020 mg/L	0.00020U mg/L
SH-09_041111_01	Tin Thallium	0.00037 mg/L 0.000036 mg/L	0.00037U mg/L 0.000036U mg/L
RD-08_041111_01	Tin	0.00017 mg/L	0.00017U mg/L
RD-11_041111_01	Thallium	0.000021 mg/L	0.000021U mg/L

Samples EB_SH-04_040711, EB_SH-04_040711F (both from SDG 280-14379-1), and EB_PZ-149_041111F were identified as equipment blanks. No metal contaminants were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_PZ-149_041111F	4/11/11	Boron Calcium Potassium Sodium	0.013 mg/L 0.051 mg/L 0.37 mg/L 0.30 mg/L	PZ-149_041111_01F
EB_SH-04_040711	4/7/11	Tin Mercury	0.00028 mg/L 0.000037 mg/L	SH-09_041111_01
EB_SH-04_040711F	4/7/11	Silver Tin Mercury	0.000018 mg/L 0.000030 mg/L 0.000034 mg/L	SH-09_041111_01F

Samples FB_041411_19 and FB_041411_19F (both from SDG 250-14655-1) were identified as field blanks. No metal contaminants were found in these blanks with the

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_041411_19	4/14/11	Iron	0.030 mg/L	SH-09_041111_01
FB_041411_19F	4/14/11	Iron Manganese Sodium Tin	0.082 mg/L 0.0012 mg/L 0.29 mg/L 0.00017 mg/L	SH-09_041111_01F PZ-149_041111_01F

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
SH-09_041111_01	Tin	0.00037 mg/L	0.00037U mg/L
SH-09_041111_01F	Manganese Tin Silver	0.0012 mg/L 0.00057 mg/L 0.000017 mg/L	0.0012U mg/L 0.00057U mg/L 0.000017U mg/L

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution data were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-14484-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Data Qualification Summary - SDG 280-14484-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-14484-1	SH-09_041111_01 RD-08_041111_01 RD-11_041111_01 RD-12_041111_01 RD-41A_041111_01 SH-09_041111_01F RD-08_041111_01F RD-11_041111_01F RD-12_041111_01F PZ-149_041111_01F EB_PZ-149_041111F RD-41A_041111_01F	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Laboratory Blank Data Qualification Summary - SDG 280-14484-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-14484-1	EB_PZ-149_041111F	Boron Sodium	0.013U mg/L 0.30U mg/L	A	B
280-14484-1	SH-09_041111_01F	Thallium Tin	0.000038U mg/L 0.00057U mg/L	A	B
280-14484-1	RD-11_041111_01F	Thallium Tin	0.000035U mg/L 0.00045U mg/L	A	B
280-14484-1	RD-08_041111_01F	Tin	0.00035U mg/L	A	B
280-14484-1	RD-12_041111_01F	Tin	0.00020U mg/L	A	B
280-14484-1	SH-09_041111_01	Tin Thallium	0.00037U mg/L 0.000036U mg/L	A	B
280-14484-1	RD-08_041111_01	Tin	0.00017U mg/L	A	B
280-14484-1	RD-11_041111_01	Thallium	0.000021U mg/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
 Metals - Field Blank Data Qualification Summary - SDG 280-14484-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-14484-1	SH-09_041111_01	Tin	0.00037U mg/L	A	F
280-14484-1	SH-09_041111_01F	Manganese Tin Silver	0.0012U mg/L 0.00057U mg/L 0.000017U mg/L	A	F

LDC #: 25435A4
 SDG #: 280-14484-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5-13-11
 Page: 1 of 1
 Reviewer: MG
 2nd Reviewer: ✓

METHOD: Metals (EPA SW 846 Method 6010B/6020/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4-11-11
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis <i>MS</i>	A SW	MS/MSD
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	A	LCS/LCSD
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	not utilized
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	EB = EB-SH-04-040711 } SDG: 280-14379-1
XIV.	Field Duplicates	N	EB = EB-SH-04-040711F }
XV.	Field Blanks	SW	EB = 11 FB = FB-041411-19 } SDG: 280-14655-1

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

FB = FB-041411-19F
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: *all water*

1	SH-09_041111_01	11	EB_PZ-149_041111F	21		31	
2	RD-08_041111_01	12	RD-41A_041111_01F	22		32	
3	RD-11_041111_01	13	RD-12_041111_01MS	23		33	
4	RD-12_041111_01	14	RD-12_041111_01MSD	24		34	
5	RD-41A_041111_01	15	RD-41A_041111_01MS	25		35	
6	SH-09_041111_01F	16	RD-41A_041111_01MSD	26		36	
7	RD-08_041111_01F	17	SH-09_041111_01FMS	27		37	
8	RD-11_041111_01F	18	SH-09_041111_01FMSD	28		38	
9	RD-12_041111_01F	19	RD-08_041111_01FMS	29	PBW1	39	
10	PZ-149_041111_01F	20	RD-08_041111_01FMSD	30	PBW2	40	

Notes: Samples appended with "F" were analyzed for dissolved metals

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Sample Concentration units, unless otherwise noted: mg/L

Soil preparation factor applied: NA
Associated Samples: 10, 11

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit						
B		0.00518		0.0259						
					11					
									0.013	

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Sample Concentration units, unless otherwise noted: mg/L

Soil preparation factor applied: NA
Associated Samples: 6, 10-12

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit						
Na		0.223		1.115						
					11					
									0.30	

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Sample Concentration units, unless otherwise noted: mg/L

Soil preparation factor applied: NA
Associated Samples: 1, 5 (>5x)

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit						
Na		0.196		0.98						
					No Qual's					

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Sample Concentration units, unless otherwise noted: mg/L

Soil preparation factor applied: NA
Associated Samples: 6-11

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit						
TI		0.0000228		0.000114						
					6				8	
									0.000038	0.000035

PB/ICB/CCB QUALIFIED SAMPLES

Soil preparation factor applied: NA

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)

Associated Samples: 6-9

Sample Concentration units, unless otherwise noted: mg/L

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	6	7	8	9		
Sn		0.000287		0.001435	0.00057	0.00035	0.00045	0.00020		

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)

Soil preparation factor applied: NA

Associated Samples: 1-4

Sample Concentration units, unless otherwise noted: mg/L

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	1	2	3			
Sn		0.000334		0.00167	0.00037	0.00017				
Tl		0.0000269		0.0001345	0.000036		0.000021			

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)
 Y N N/A Were field blanks identified in this SDG?
 Y N N/A Were target analytes detected in the field blanks?
Blank units: mg/L Associated sample units: mg/L
Sampling date: 4/11/11 Soil factor applied: NA
Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: 10 (>5x)

Analyte	Blank ID	Action Level	No Qual's	Sample Identification				
	11							
B	0.013	0.065						
Ca	0.051	0.255						
K	0.37	1.85						
Na	0.30	1.5						

Blank units: mg/L Associated sample units: mg/L
Sampling date: 4/14/11 Soil factor applied: NA
Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: 1 (ND)

Analyte	Blank ID	Action Level	No Qual's	Sample Identification				
	FB_041411_19							
Fe	0.030	0.15						

Blank units: mg/L Associated sample units: mg/L
Sampling date: 4/14/11 Soil factor applied: NA
Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: 6, 10 (#10 Not analyzed for Sn)

Analyte	Blank ID	Action Level	No Qual's	Sample Identification				
	FB_041411_19F		6					
Fe	0.082	0.41						
Mn	0.0012	0.006	0.0012					
Na	0.29	1.45						
Sn	0.00017	0.00085	0.00057					

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

N N/A Were field blanks identified in this SDG?
 N N/A Were target analytes detected in the field blanks?

Blank units: mg/L Associated sample units: mg/L

Soil factor applied: NA

Sampling date: 4/7/11

Field blank type: (circle one) Field Blank / Rinsate / Other EB

Qual: U (F)
Associated Samples: 1

Analyte	Blank ID	Action Level	1	0.00037	0.0014	0.00037	0.00185	Sample Identification						
Sn	EB_SH-04_040711													
Hg	0.00028													
	0.00037													

Blank units: mg/L Associated sample units: mg/L

Soil factor applied: NA

Sampling date: 4/7/11

Field blank type: (circle one) Field Blank / Rinsate / Other EB

Qual: U (F)
Associated Samples: 6

Analyte	Blank ID	Action Level	6	0.00017	0.00009	0.00017	0.00057	Sample Identification						
Ag	EB_SH-04_040711F													
Sn	0.00018													
Hg	0.00030													
	0.00034													

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:

Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 11, 2011

LDC Report Date: May 20, 2011

Matrix: Water

Parameters: Herbicides

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14484-1

Sample Identification

SH-09_041111_01
RD-08_041111_01
RD-11_041111_01
RD-12_041111_01

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8151A for Herbicides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No herbicide contaminants were found in the method blanks.

Sample EB-SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No herbicide contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No herbicide contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/(Matrix Spike) Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14484-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Data Qualification Summary - SDG 280-14484-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14484-1	SH-09_041111_01 RD-08_041111_01 RD-11_041111_01 RD-12_041111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Laboratory Blank Data Qualification Summary - SDG 280-14484-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Field Blank Data Qualification Summary - SDG 280-14484-1**

No Sample Data Qualified in this SDG

LDC #: 25435A5
 SDG #: 280-14484-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/16/14
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4 / 11 / 11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	LCS / b
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	EB = ED-SH 04_040711 (280-14379-1) FB = FB-041411-19 (280-14655-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	SH-09_041111_01	11	MB 280-62178/1-A	21		31	
2	RD-08_041111_01	12		22		32	
3	RD-11_041111_01	13		23		33	
4	RD-12_041111_01	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 11, 2011
LDC Report Date: May 17, 2011
Matrix: Water
Parameters: Wet Chemistry
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14484-1

Sample Identification

SH-09_041111_01
RD-08_041111_01
RD-11_041111_01
RD-12_041111_01
PZ-149_041111_01
EB_PZ-149_041111
RD-41A_041111_01
SH-09_041111_01MS
SH-09_041111_01MSD
SH-09_041111_01DUP
RD-11_041111_01MS
RD-11_041111_01MSD
RD-11_041111_01DUP

Introduction

This data review covers 13 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Standard Method 2320B for Alkalinity, EPA Method 350.1 for Ammonia as Nitrogen, EPA Method 300.0 for Bromide, Chloride, Fluoride Nitrate, Nitrite, Orthophosphate, and Sulfate, Standard Method 2510B for Conductivity, EPA SW 846 Method 9012A for Cyanide, EPA Method 314.0 for Perchlorate, EPA SW 846 Method 9040B for pH, Standard Method 4500-S2 D for Sulfide, Standard Method 2540C for Total Dissolved Solids, and EPA Method 180.1 for Turbidity.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
PB (prep blank)	Total dissolved solids	8.00 mg/L	SH-09_041111_01 RD-41A_041111_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

Samples EB_SH-04_040711 (from SDG 280-14379-1) and EB_PZ-149_041111 were identified as equipment blanks. No metal contaminants were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_SH-04_040711	4/7/11	Fluoride Nitrate Ammonia as N Cyanide pH	0.11 mg/L 0.19 mg/L 0.091 mg/L 0.0020 mg/L 5.83 pH units	SH-09_041111_01

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No contaminant concentrations were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_041411_19	4/14/11	pH	5.81 pH units	SH-09_041111_01 PZ-149_041111_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
SH-09_041111_01	Ammonia as N	0.10 mg/L	0.10U mg/L

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-14484-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-14484-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-14484-1	SH-09_041111_01 RD-08_041111_01 RD-11_041111_01 RD-12_041111_01 PZ-149_041111_01 EB_PZ-149_041111 RD-41A_041111_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-14484-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-14484-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-14484-1	SH-09_041111_01	Ammonia as N	0.10U mg/L	A	F

LDC #: 25435A6

VALIDATION COMPLETENESS WORKSHEET

Date: 5-13-11

SDG #: 280-14484-1

Level V

Page: 1 of 1

Laboratory: Test America Inc.

Reviewer: MG

2nd Reviewer: *[Signature]*

METHOD: (Analyte) Alkalinity (SM2320B), Ammonia-N (EPA Method 350.1), Bromide, Chloride, Fluoride, Nitrate, Nitrite, Orthophosphate, Sulfate (EPA Method 300.0), Conductivity (SM2510B), Cyanide (EPA SW846 Method 9012A), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B), Sulfide (SM4500-S2 D), TDS (SM2540C), Turbidity (EPA Method 180.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4-11-11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	SW	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/MSD
V	Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS/LCSD
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	EB = EB-SH-04-040711 (SDG: 280-14379-1)
X	Field blanks	SW	EB = 6* FB = FB-041411-19 (SDG: 280-14655-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

* = ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: *all water*

1	SH-09_041111_01	11	RD-11_041111_01MS	21		31	
2	RD-08_041111_01	12	RD-11_041111_01MSD	22		32	
3	RD-11_041111_01	13	RD-11_041111_01DUP	23		33	
4	RD-12_041111_01	14		24		34	
5	PZ-149_041111_01	15		25		35	
6	EB_PZ-149_041111	16		26		36	
7	RD-41A_041111_01	17		27		37	
8	SH-09_041111_01MS	18		28		38	
9	SH-09_041111_01MSD	19		29	PBW1	39	
10	SH-09_041111_01DUP	20		30	PBW2	40	

Notes: _____

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: Inorganics, EPA Method. See Cover
 Y **N** **N/A** Were field blanks identified in this SDG?
 Y **N** **N/A** Were target analytes detected in the field blanks?
Blank units: mg/L **Associated sample units:** mg/L
Sampling date: 4/7/11 Soil factor applied: NA
Field blank type: (circle one) Field Blank / Rinsate / Other EB Associated Samples: 1 Qual: U (F)

Analyte	Blank ID	Action Limit	Sample Identification
	EB SH-04 040711		1
F	0.11	0.55	
NO3	0.19	0.95	
NH3-N	0.091	0.455	0.10
CN	0.0020	0.01	
pH (pH units)	5.83		

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 11, 2011

LDC Report Date: May 20, 2011

Matrix: Water

Parameters: Diesel Range Organics

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14484-1

Sample Identification

PZ-149_041111_01
EB_PZ-149_041111
RD-41A_041111_01

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Diesel Range Organics.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No diesel range organic contaminants were found in the method blanks.

Sample EB_PZ-149_041111 was identified as an equipment blank. No diesel range organic contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No diesel range organic contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14484-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Data Qualification Summary - SDG 280-14484-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14484-1	PZ-149_041111_01 EB_PZ-149_041111 RD-41A_041111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Laboratory Blank Data Qualification Summary - SDG 280-14484-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Field Blank Data Qualification Summary - SDG 280-14484-1**

No Sample Data Qualified in this SDG

LDC #: 25435A8
 SDG #: 280-14484-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/16/11
 Page: 1 of 1
 Reviewer: SV
 2nd Reviewer: [Signature]

METHOD: GC Diesel Range Organics (Oklahoma Department of Environmental Quality) ^{8015 B}

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/11/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client spec
VII.	Laboratory control samples	A	108 / 10
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	EB = 2 FB = FB-041411-19 (280-14655-1)

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: Water

1	PZ-149_041111_01	11	MB 280-62450 A-A	21		31	
2	EB_PZ-149_041111	12		22		32	
3	RD-41A_041111_01	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 11, 2011
LDC Report Date: May 19, 2011
Matrix: Water
Parameters: 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14484-1

Sample Identification

SH-09_041111_01
TB_SH-09_041111
RD-08_041111_01
RD-11_041111_01
TB_RD-11_041111
RD-12_041111_01

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 504.1 for 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in the method blanks.

Samples TB_SH-09_041111 and TB_RD-11_041111 were identified as trip blanks. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in these blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14484-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Data Qualification Summary -
 SDG 280-14484-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14484-1	SH-09_041111_01 TB_SH-09_041111 RD-08_041111_01 RD-11_041111_01 TB_RD-11_041111 RD-12_041111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Laboratory Blank Data
 Qualification Summary - SDG 280-14484-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Field Blank Data Qualification
 Summary - SDG 280-14484-1**

No Sample Data Qualified in this SDG

LDC #: 25435A10

VALIDATION COMPLETENESS WORKSHEET

Date: 5/16/11

SDG #: 280-14484-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JVC

2nd Reviewer: [Signature]

METHOD: GC 1,2-Dibromomethane & 1,2-Dibromo-3-chloropropane (EPA Method 504.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/11/11
II	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	LCS. 10
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	EB = EB-SH-04_040711 (280-1437A-1) TB = 2,5 FB = FB-041411-19 (280-14655-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

WATER

1	SH-09_041111_01	11	MB 280-63153/A-A	21	MB 280-62400/A-A	31
2	TB_SH-09_041111	12	MB 280-63153/A-RE	22	MB 280-63153/A-RE	32
3	RD-08_041111_01	13	MB 280-63232/A-A	23	MB 280-63232/A-A	33
4	RD-11_041111_01	14		24		34
5	TB_RD-11_041111	15		25		35
6	RD-12_041111_01	16		26		36
7		17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 11, 2011
LDC Report Date: May 19, 2011
Matrix: Water
Parameters: Organophosphorus Pesticides
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14484-1

Sample Identification

SH-09_041111_01
RD-08_041111_01
RD-11_041111_01
RD-12_041111_01

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8141A for Organophosphorus Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No organophosphorus pesticide contaminants were found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No organophosphorus pesticide contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No organophosphorus pesticide contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Column	Surrogate	%R (Limits)	Compound	Flag	A or P
SH-09_041111_01	2	Triphenyl Phosphate	160 (60-154)	All TCL compounds	J (all detects)	P
RD-08_041111_01	2	Triphenyl Phosphate	163 (60-154)	All TCL compounds	J (all detects)	P
RD-11_041111_01	2	Triphenyl Phosphate	160 (60-154)	All TCL compounds	J (all detects)	P
MB 280-61938/1-A	1	Triphenyl Phosphate	172 (60-154)	All TCL compounds	J (all detects)	P
MB 280-61938/1-A	2	Triphenyl Phosphate	188 (60-154)	All TCL compounds	J (all detects)	P

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14484-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Data Qualification Summary - SDG 280-14484-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14484-1	SH-09_041111_01 RD-08_041111_01 RD-11_041111_01	All TCL compounds	J (all detects)	P	Surrogate spikes (%R) (S)
280-14484-1	SH-09_041111_01 RD-08_041111_01 RD-11_041111_01 RD-12_041111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Laboratory Blank Data Qualification Summary - SDG 280-14484-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Field Blank Data Qualification Summary - SDG 280-14484-1**

No Sample Data Qualified in this SDG

LDC #: 25435A17

VALIDATION COMPLETENESS WORKSHEET

Date: 5/16/11

SDG #: 280-14484-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JVG

2nd Reviewer: [Signature]

METHOD: GC Organophosphorus Pesticides (EPA SW 846 Method 8141A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/11/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	SW	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	ICS 1D
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	EB = EB_SH-04-040711 (280-14374-1) FB = FB-040711-19 (280-14655-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	SH-09_041111_01	11	MB 280-61938/1-A	21		31	
2	RD-08_041111_01	12		22		32	
3	RD-11_041111_01	13		23		33	
4	RD-12_041111_01	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

LDC #: 25425A19

VALIDATION FINDINGS WORKSHEET

Page: 1 of 1

Reviewer: [Signature]
2nd Reviewer: [Signature]

Surrogate Recovery

METHOD: GC HPLC

Are surrogates required by the method? Yes or No

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N/A Were surrogates spiked into all samples and blanks?

Y N/A Did all surrogate recoveries (%R) meet the QC limits?

#	Sample ID	Detector/Column	Surrogate Compound	%R (Limits)	Qualifications
	1	Col. 2	X	100 (60-154)	J dets / P (S)
	2			163 ()	
	3			160 ()	
	MO 260-61928 A	Col. 1		177 ()	
		col. 1		188 ()	

Surrogate Compound	Surrogate Compound	Surrogate Compound	Surrogate Compound	Surrogate Compound	Surrogate Compound	Surrogate Compound	Surrogate Compound	Surrogate Compound
A Chlorobenzene (CBZ)	G Octacosane	M	S	1-Chloro-3-Nitrobenzene	Y	Tetrachloro-m-xylene		
B 4-Bromofluorobenzene (BFB)	H Ortho-Terphenyl	N	T	3,4-Dinitrotoluene	Z	2-Bromonaphthalene		
C a,a,a-Trifluorotoluene	I Fluorobenzene (FBZ)	O	U	Triphenyltin	AA	1-Chlorooctadecane		
D Bromochlorobenzene	J n-Triacontane	P	V	Tri-n-propyltin	BB	2,4-DCPAA		
E 1,4-Dichlorobutane	K Hexacosane	Q	W	Tributyl Phosphate	CC	2,5-Dibromotoluene		
F 1,4-Difluorobenzene (DFB)	L Bromobenzene	R	X	Triphenyl Phosphate				
				Benzo(e)Pyrene				
				Terphenyl-D14				
				Decachlorobiphenyl (DCB)				
				1-methylnaphthalene				
				Dichlorophenyl Acetic Acid (DCAA)				
				4-Nitrophenol				

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 11, 2011

LDC Report Date: May 19, 2011

Matrix: Water

Parameters: Hexachlorophene

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14484-1

Sample Identification

SH-09_041111_01

RD-08_041111_01

RD-11_041111_01

RD-12_041111_01

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8321A for Hexachlorophene.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No hexachlorophene was found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No hexachlorophene was found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No hexachlorophene was found in this blank.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG280-14484-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Data Qualification Summary - SDG 280-14484-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14484-1	SH-09_041111_01 RD-08_041111_01 RD-11_041111_01 RD-12_041111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Laboratory Blank Data Qualification Summary - SDG 280-14484-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Field Blank Data Qualification Summary - SDG 280-14484-1**

No Sample Data Qualified in this SDG

LDC #: 25435A44
 SDG #: 280-14484-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/16/11
 Page: 1 of 1
 Reviewer: NV
 2nd Reviewer: [Signature]

METHOD: LC/MS Hexachlorophene (EPA SW 846 Method 8321A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/11/11</u>
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	<u>client spec</u>
VIII.	Laboratory control samples	A	<u>ICS</u>
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	<u>EB = EB-SH-04_04 07 11 (280-14379-1)</u>

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

FB = FB-041411-15 (280-14655-1)
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: NATC/

1	SH-09_041111_01	11	<u>MB 280-61993/10</u>	21		31	
2	RD-08_041111_01	12		22		32	
3	RD-11_041111_01	13		23		33	
4	RD-12_041111_01	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 11, 2011

LDC Report Date: May 19, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14484-1/A1D120533

Sample Identification

SH-09_041111_01
RD-08_041111_01
RD-11_041111_01
RD-12_041111_01
RD-41A_041111_01

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No formaldehyde was found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No formaldehyde was found in this blank.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14484-1/A1D120533	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Data Qualification Summary - SDG 280-14484-1/A1D120533**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14484-1/ A1D120533	HAR-19_041511_01 RD-49A_041511_01 RD-49B_041511_01 RD-49B_041511_36 RD-49C_041511_01 HAR-14_041511_01 HAR-12_041511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-14484-1/A1D120533**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Field Blank Data Qualification Summary - SDG 280-14484-1/A1D120533**

No Sample Data Qualified in this SDG

LDC #: 25435A71 **VALIDATION COMPLETENESS WORKSHEET**

SDG #: 280-14484-1/A1D120533

Level V

Laboratory: Test America, Inc.

Date: 5/16/11

Page: 1 of 1

Reviewer: DVE

2nd Reviewer: [Signature]

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/11/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	N	Client spec
VII.	Laboratory control samples	A	LCS
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	EB = EB_SH-04_046711 (280-14379-1) FB = FB_041411_19 (280-14655-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

water

1	SH-09_041111_01	11	1103037-MB	21		31	
2	RD-08_041111_01	12		22		32	
3	RD-11_041111_01	13		23		33	
4	RD-12_041111_01	14		24		34	
5	RD-41A_041111_01	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 11, 2011

LDC Report Date: May 19, 2011

Matrix: Water

Parameters: Hydrazines

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14484-1

Sample Identification

RD-41A_041111_01

RD-41A_041111_01MS

RD-41A_041111_01MSD

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DVWC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazine contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG280-14484-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-14484-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14484-1	RD-41A_041111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-14484-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-14484-1**

No Sample Data Qualified in this SDG

LDC #: 25435A76

VALIDATION COMPLETENESS WORKSHEET

Date: 5/16/11

SDG #: 280-14484-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JVL

2nd Reviewer: [Signature]

METHOD: HPLC Hydrazines (Method DVWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/11/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	A	LCS ID
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

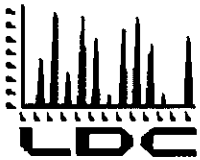
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	RD-41A_041111_01	11	MB 280-62655/25	21		31	
2	RD-41A_041111_01MS	12		22		32	
3	RD-41A_041111_01MSD	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 27, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

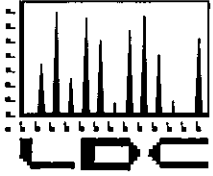
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 10, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25435:

<u>SDG #</u>	<u>Fraction</u>
280-14484-1/ IUD1261/ A1D120533 280-14702-1/ IUD1801/ A1D160428	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Pentachlorophenol, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane, Organophosphorus Pesticides, Hexachloroethane, Formaldehyde, Hydrazine
280-14702-2 280-14817-2	N-Nitrosodimethylamine, Perchlorate
280-14837-1/ H1D210424 280-14869-1/ H1D220445 280-14944-1/ H1D230409	Dioxins/Dibenzofurans
280-14927-2 280-15126-2 280-15184-2	N-Nitrosodimethylamine

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010



- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

Client Select IV LDC #25435 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane (8260B-S)		1,2,3-TCP (524.2)		SVOA (8270C)		SVOA (8270C-SIM)		PCP (8270C-LL)		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (8015B)		EDB (504.1)		Formaldehyde (8315)		Hexachlorophene (8321A)		OPHS Pest. (8141A)		Herbs (8151A)			
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S		
Matrix: Water/Soil																																							
A	280-14484-1/ IUD1261/ A1D120533	05/10/11	06/01/11	11	0	10	0	6	0	7	0	2	0	4	0	7	0	4	0	4	0	6	0	5	0	7	0	3	0	6	0	5	0	4	0	4	0	4	0
B	280-14702-1/ IUD1801/ A1D160428	05/10/11	06/01/11	11	0	10	0	7	0	7	0	-	4	0	7	0	4	0	4	0	4	0	7	0	7	0	6	0	7	0	7	0	4	0	4	0	4	0	
C	280-14702-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	-	5	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
D	280-14817-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	-	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
G	280-14927-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	-	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
I	280-15126-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
J	280-15184-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total																																							
T/P/G				22	0	20	0	13	0	14	0	2	0	8	0	31	0	8	0	10	0	10	0	12	0	14	0	9	0	13	0	12	0	8	0	8	0	8	0

Client Select IV LDC #25435 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydrazine (DVWC)		CLO ₄ (6860)		Dioxins (8290)		Alk. (2320B)		NH ₃ -N (350.1)		Cl SO ₄ (300.0)		NO ₂ O-PO ₄		F NO ₃ (300.0)		CN- (9012A)		Cond. (2510B)		CLO ₄ (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)		S= (4500 -S2 D)			
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
Matrix: Water/Soil																																							
A	280-14484-1	05/10/11	06/01/11	1	0	-	-	-	-	-	-	-	-	2	0	5	0	4	0	2	0	7	0	4	0	2	0	2	0	5	0	5	0	2	0	2	0	4	0
B	280-14702-1	05/10/11	06/01/11	7	0	2	0	2	0	-	-	-	-	6	0	7	0	6	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C	280-14702-2	05/10/11	06/01/11	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D	280-14817-2	05/10/11	06/01/11	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E	280-14837-1/ H1D210424	05/10/11	06/01/11	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
F	280-14869-1/ H1D220445	05/10/11	06/01/11	-	-	-	-	-	-	-	-	5	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	280-14944-1/ H1D230409	05/10/11	06/01/11	-	-	-	-	-	-	-	-	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total																																							
T/P/G				8	0	2	0	2	0	3	0	11	0	8	0	12	0	10	0	2	0	2	0	14	0	8	0	8	0	12	0	12	0	8	0	8	0	8	0

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 15, 2011
LDC Report Date: May 19, 2011
Matrix: Water
Parameters: Volatiles
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14702-1

Sample Identification

HAR-19_041511_01
TB_HAR-19_041511
RD-49A_041511_01
RD-49B_041511_01
RD-49B_041511_36
TB_RD-49B_041511
RD-49C_041511_01
TB_RD-49C_041511
HAR-14_041511_01
TB_HAR-14_041511
HAR-12_041511_01
HAR-19_041511_01MS
HAR-19_041511_01MSD

Introduction

This data review covers 13 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Samples TB_HAR-19_041511, TB_RD-49B_041511, TB_RD-49C_041511, and TB_HAR-14_041511 were identified as trip blanks. No volatile contaminants were found in these blanks with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
TB_RD-49B_041511	4/15/11	Acetone Methylene chloride	2.0 ug/L 0.58 ug/L	RD-49A_041511_01 RD-49B_041511_01 RD-49B_041511_36
TB_HAR-14_041511	4/15/11	Acetone Methylene chloride	2.8 ug/L 0.68 ug/L	HAR-14_041511_01 HAR-12_041511_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
RD-49A_041511_01	Methylene chloride	3.0 ug/L	25U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
RD-49B_041511_01	1,2-Dichloroethane-d4 Toluene-d8	125 (80-120) 114 (88-110)	All TCL compounds except cis-1,2-Dichloroethene Trichloroethene	J (all detects)	P
RD-49B_041511_01	1,2-Dichloroethane-d4	121 (80-120)	cis-1,2-Dichloroethene Trichloroethene	J (all detects) J (all detects)	P
RD-49B_041511_36	1,2-Dichloroethane-d4 Toluene-d8	126 (80-120) 115 (88-110)	All TCL compounds except cis-1,2-Dichloroethene Trichloroethene	J (all detects)	P
RD-49B_041511_36	1,2-Dichloroethane-d4 Toluene-d8	124 (80-120) 111 (88-110)	cis-1,2-Dichloroethene Trichloroethene	J (all detects) J (all detects)	P
MB 280-63665/7	Dibromofluoromethane 1,2-Dichloroethane-d4 Bromofluorobenzene	78 (86-118) 79 (80-120) 116 (86-115)	All TCL compounds	J (all detects) UJ (all non-detects)	P

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
HAR-19_041511_01MS/MSD (HAR-19_041511_01M)	cis-1,2-Dichloroethene	52 (80-120)	-	-	J (all detects)	A
	trans-1,2-Dichloroethene	64 (80-120)	-	-	UJ (all non-detects)	
	trans-1,4-Dichloro-2-butene	-	57 (70-130)	-		
	Trichloroethene	64 (78-122)	-	-		

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG280-14702-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RD-49B_041511_01 and RD-49B_041511_36 were identified as field duplicates. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	RD-49B_041511_01	RD-49B_041511_36			
1,1-Dichloroethene	0.58	0.64	10 (≤35)	-	-
trans-1,2 -Dichloroethene	11	11	0 (≤35)	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	RD-49B_041511_01	RD-49B_041511_36			
Vinyl chloride	2.1	2.2	5 (≤35)	-	-
cis-1,2 -Dichloroethene	240	230	4 (≤35)	-	-
Trichloroethene	230	220	4 (≤35)	-	-

**Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-14702-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14702-1	RD-49B_041511_01 RD-49B_041511_36	All TCL compounds	J (all detects)	P	Surrogate spikes (%R) (S)
280-14702-1	HAR-19_041511_01	cis-1,2-Dichloroethene trans-1,2-Dichloroethene trans-1,4-Dichloro-2-butene Trichloroethene	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
280-14702-1	HAR-19_041511_01 TB_HAR-19_041511 RD-49A_041511_01 RD-49B_041511_01 RD-49B_041511_36 TB_RD-49B_041511 RD-49C_041511_01 TB_RD-49C_041511 HAR-14_041511_01 TB_HAR-14_041511 HAR-12_041511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-14702-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-14702-1**

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-14702-1	RD-49A_041511_01	Methylene chloride	25U ug/L	A	T

LDC #: 25435B1a

VALIDATION COMPLETENESS WORKSHEET

Date: 5/6/11

SDG #: 280-14702-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: NV

2nd Reviewer: [Signature]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

Validation Area		Comments	
I.	Technical holding times	A	Sampling dates: 4/15/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	A	LCS 10
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D = 4, 5
XVII.	Field blanks	SW	TB = 2, 4, 8, 10

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

✖ ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	HAR-19_041511_01	11	HAR-12_041511_01	21	MB 280-62835/5	31	APP. 6666)
2	TB_HAR-19_041511	12	HAR-19_041511_01MS	22	MB 280-62876/6	32	
3	RD-49A_041511_01	13	HAR-19_041511_01MSD	23	MB 280-63665/7	33	
4	RD-49B_041511_01	14		24	MB 280-63666/7	34	
5	RD-49B_041511_36	15		25		35	
6	TB_RD-49B_041511	16		26		36	
7	RD-49C_041511_01	17		27		37	
8	TB_RD-49C_041511	18		28		38	
9	HAR-14_041511_01	19		29		39	
10	TB_HAR-14_041511	20		30		40	

APP IX = 1, 2

VOCs = 3-6

APP IX, A, A = 7, 8

VOCs, IPA, APP IX, A, A = 9-11

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC. 1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl chloride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromomethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN. <i>trans</i> -1,4-Dichloro-2-butene
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chloroluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

VALIDATION FINDINGS WORKSHEET

Field Blanks

Page: 1 of 1
 Reviewer: DVL
 2nd Reviewer: h

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Y **N** **N/A** Were field blanks identified in this SDG?

Y **N** **N/A**. Were target compounds detected in the field blanks?

Blank units: ug/L Associated sample units: ug/L

Field blank type: (circle one) Field Blank / ~~Rinsate~~ / ~~Trip Blank~~ Other: 3-5 Code: T Associated Samples: 3-5

Compound	Blank ID <u>6</u>	Blank ID	Sample Identification
Sampling Date	4/15/11		3
F	2.0		
E	0.58		3.0/25u

CRQL

Blank units: ug/L Associated sample units: ug/L

Field blank type: (circle one) Field Blank / ~~Rinsate~~ / ~~Trip Blank~~ Other: 9/11 (N.D)

Compound	Blank ID <u>10</u>	Blank ID	Sample Identification
Sampling Date	4/15/11		
F	2.8		
E	0.68		

CRQL

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET

Surrogate Spikes

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
 Y (N) N/A
 Y (N) N/A
 Were all surrogate %R within QC limits?
 If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R out of outside of criteria?

#	Date	Sample ID	Surrogate	%Recovery (Limits)	Qualifications
		4	DCE	125 (80-120)	J A/C/S/P (qual all TOL except ROR, S)
			TOL	114 (88-110)	
(b1)		4	DCE	121 (80-120)	(qual ROR, S)
		5	DCE	126 (80-120)	
			TOL	115 (88-110)	(qual all TOL except ROR, S)
(b1)		5	DCE	124 (80-120)	
			TOL	111 (88-110)	(qual ROR, S)
		MB 280-62665/7	DFM	78 (86-118)	J / W / P (qual all TOL)
			DCE	79 (80-120)	
			BFB	116 (86-115)	

QC Limits (Soil)
 85-115
 85-120
 60-120
 75-125

QC Limits (Water)
 85-120
 75-120
 70-120
 85-115

SMC1 (TOL) = Toluene-d8
 SMC2 (BFB) = Bromofluorobenzene
 SMC3 (DCE) = 1,2-Dichloroethane-d4
 SMC4 (DFM) = Dibromofluoromethane

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GC MS Volatiles (EPA SW 846 Method 8260B)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		($\leq 35\%$) RPD	Qualifications (Parent only)
	4	5		
1,1-Dichloroethene	0.58	0.64	10	
trans-1,2 -Dichloroethene	11	11	0	
Vinyl chloride	2.1	2.2	5	
cis-1,2 -Dichloroethene	240	230	4	
Trichloroethene	230	220	4	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 15, 2011
LDC Report Date: May 18, 2011
Matrix: Water
Parameters: 1,4-Dioxane
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14702-1

Sample Identification

HAR-19_041511_01
TB_HAR-19_041511
RD-49A_041511_01
RD-49B_041511_01
RD-49B_041511_36
RD-49C_041511_01
TB_RD-49C_041511
HAR-14_041511_01
TB_HAR-14_041511
HAR-12_041511_01
HAR-19_041511_01MS
HAR-19_041511_01MSD

Introduction

This data review covers 12 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-dioxane was found in the method blanks.

Samples TB_HAR-19_041511, TB_RD-49C_041511, and TB_HAR-14_041511 were identified as trip blanks. No 1,4-dioxane was found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG280-14702-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RD-49B_041511_01 and RD-49B_041511_36 were identified as field duplicates. No 1,4-Dioxane was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	RD-49B_041511_01	RD-49B_041511_36			
1,4-Dioxane	2.1	2.0	5 (≤35)	-	-

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-14702-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14702-1	HAR-19_041511_01 TB_HAR-19_041511 RD-49A_041511_01 RD-49B_041511_01 RD-49B_041511_36 RD-49C_041511_01 TB_RD-49C_041511 HAR-14_041511_01 TB_HAR-14_041511 HAR-12_041511_01	All compounds reported below the RL	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-14702-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-14702-1**

No Sample Data Qualified in this SDG

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/15/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS 1b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	b = 4, 5
XVII.	Field blanks	ND	TB = 2, 7, 9

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: *water*

1	HAR-19_041511_01	11	HAR-19_041511_01MS	21	<i>MD 280-63048/S</i>	31
2	TB HAR-19_041511	12	HAR-19_041511_01MSD	22		32
3	RD-49A_041511_01	13		23		33
4	RD-49B_041511_01 <i>d</i>	14		24		34
5	RD-49B_041511_36 <i>d</i>	15		25		35
6	RD-49C_041511_01	16		26		36
7	TB RD-49C_041511	17		27		37
8	HAR-14_041511_01	18		28		38
9	TB HAR-14_041511	19		29		39
10	HAR-12_041511_01	20		30		40

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GC MS Volatiles (EPA SW 846 Method 8260B-SIM)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		($\leq 35\%$) RPD	Qualifications (Parent only)
	4	5		
1,4-Dioxane	2.1	2.0	5	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 15, 2011
LDC Report Date: May 18, 2011
Matrix: Water
Parameters: 1,2,3-Trichloropropane
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14702-1/IUD1801

Sample Identification

HAR-19_041511_01
TB_HAR-19_041511
RD-49C_041511_01
TB_RD-49C_041511
HAR-14_041511_01
TB_HAR-14_041511
HAR-12_041511_01
HAR-19_041511_01MS
HAR-19_041511_01MSD

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-trichloropropane was found in the method blanks.

Samples TB_HAR-19_041511, TB_RD-49C_041511, and TB_HAR-14_041511 were identified as trip blanks. No 1,2,3-trichloropropane was found in these blanks.

VI. Surrogate Spikes

Surrogate spikes were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Raw data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14702-1/IUD1801	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 1,2,3-Trichloropropane - Data Qualification Summary - SDG 280-14702-1/IUD1801**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14702-1/IUD1801	HAR-19_041511_01 TB_HAR-19_041511 RD-49C_041511_01 TB_RD-49C_041511 HAR-14_041511_01 TB_HAR-14_041511 HAR-12_041511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG 280-14702-1/IUD1801**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG 280-14702-1/IUD1801**

No Sample Data Qualified in this SDG

METHOD: GC/MS 1,2,3-Trichloropropane (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/15/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 2, 4, 6

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Nancy

1	HAR-19_041511_01	11	11 D 2556-BUK1	21	31
2	TB HAR-19_041511	12		22	32
3	RD-49C_041511_01	13		23	33
4	TB_RD-49C_041511	14		24	34
5	HAR-14_041511_01	15		25	35
6	TB HAR-14_041511	16		26	36
7	HAR-12_041511_01	17		27	37
8	HAR-19_041511_01MS	18		28	38
9	HAR-19_041511_01MSB	19		29	39
10		20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 15, 2011
LDC Report Date: May 18, 2011
Matrix: Water
Parameters: Semivolatiles
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14702-1

Sample Identification

HAR-19_041511_01
RD-49A_041511_01
RD-49B_041511_01
RD-49B_041511_36
RD-49C_041511_01
HAR-14_041511_01
HAR-12_041511_01
HAR-19_041511_01MS
HAR-19_041511_01MSD

Introduction

This data review covers 9 water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14702-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RD-49B_041511_01 and RD-49B_041511_36 were identified as field duplicates. No semivolatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	RD-49B_041511_01	RD-49B_041511_36			
Bis(2-ethylhexyl)phthalate	2.5	2.1	17 (≤35)	-	-
Di-n-octylphthalate	2.4	10U	123 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-14702-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14702-1	HAR-19_041511_01 RD-49A_041511_01 RD-49B_041511_01 RD-49B_041511_36 RD-49C_041511_01 HAR-14_041511_01 HAR-12_041511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-14702-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-14702-1**

No Sample Data Qualified in this SDG

LDC #: 25435B2a
 SDG #: 280-14702-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/16/11
 Page: 1 of 1
 Reviewer: JY
 2nd Reviewer: [Signature]

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/15/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS 1b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D = 3,4
XVII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: *Water*

1	HAR-19_041511_01	11	MB 286-62642/1-A	21	31
2	RD-49A_041511_01	12		22	32
3	RD-49B_041511_01	13		23	33
4	RD-49B_041511_36	14		24	34
5	RD-49C_041511_01	15		25	35
6	HAR-14_041511_01	16		26	36
7	HAR-12_041511_01	17		27	37
8	HAR-19_041511_01MS	18		28	38
9	HAR-19_041511_01MSD	19		29	39
10		20		30	40

APPX = 1, 5-7
 PHANALOG + NB = 2-4

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GC MS SVOA (EPA SW 846 Method 8270C)

Y N NA Were field duplicate pairs identified in this SDG?

Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(<35) RPD	Qualifications (Parent only)
	3	4		
Bis(2-ethylhexyl) phthalate	2.5	2.1	17	
Di-n-octyl phthalate	2.4	10U	123	NQ(<5XRL)

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 15, 2011

LDC Report Date: May 18, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14702-1

Sample Identification

HAR-19_041511_01
RD-49A_041511_01
RD-49B_041511_01
RD-49B_041511_36
RD-49C_041511_01
HAR-14_041511_01
HAR-12_041511_01
HAR-19_041511_01MS
HAR-19_041511_01MSD

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-nitrosodimethylamine was found in the method blanks.

Samples FB_RD-49B_041511_19, FB_RD-49C_041511_19, and FB_HAR14_041511_19 (all from SDG 280-14702-2) were identified as field blanks. No N-nitrosodimethylamine was found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG280-14702-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RD-49B_041511_01 and RD-49B_041511_36, samples RD-49C_041511_01 and RD-49C_041511_36, (from SDG 280-14702-2) and samples HAR-14_041511_01 and HAR-14_041511_36 (from SDG 280-14702-2) were identified as field duplicates. No N-nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	RD-49B_041511_01	RD-49B_041511_36			
N-nitrosodimethylamine	0.038	0.039	3 (≤35)	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	RD-49C_041511_01	RD-49C_041511_36			
N-nitrosodimethylamine	0.011	0.014	24 (≤35)	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-14_041511_01	HAR-14_041511_36			
N-nitrosodimethylamine	2.8	2.2	24 (≤35)	-	-

Boeing SSFL GW 2nd Qtr, 2011

N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-14702-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14702-1	HAR-19_041511_01 RD-49A_041511_01 RD-49B_041511_01 RD-49B_041511_36 RD-49C_041511_01 HAR-14_041511_01 HAR-12_041511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011

N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary – SDG 280-14702-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011

N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-14702-1

No Sample Data Qualified in this SDG

LDC #: 25435B2b
 SDG #: 280-14702-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/16/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/15/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS 1/b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	$D_1 = 3.4$ $D_2 = 5 + RD-49C-041511-36$ $D_3 = 6 + HAR-14-041511-36$ $> 280-14702-2$
XVII.	Field blanks	ND	FB = FB-RD-49B-041511-19 ; FB-RD-49C-041511-19 ↓ FB: HAR-14-041511-19 (call from 280-14702-2)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	HAR-19_041511_01	11	MP 280-63059/1-A-21	21	31
2	RD-49A_041511_01	12		22	32
3	RD-49B_041511_01 D_1	13		23	33
4	RD-49B_041511_36 b_1	14		24	34
5	RD-49C_041511_01 D_2	15		25	35
6	HAR-14_041511_01 D_3	16		26	36
7	HAR-12_041511_01	17		27	37
8	HAR-19_041511_01MS	18		28	38
9	HAR-19_041511_01MSD	19		29	39
10		20		30	40

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GCMS NDMA (EPA Method 1625M)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent Only)
	RD-49B_041511_01	RD-49B_041511_36		
NDMA	0.038	0.039	3	

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent Only)
	RD-49C_041511_01	RD-49C_041511_36		
NDMA	0.011	0.014	24	

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent Only)
	HAR-14_041511_01	HAR-14_041511_36		
NDMA	2.8	2.2	24	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 15, 2011

LDC Report Date: May 19, 2011

Matrix: Water

Parameters: Pentachlorophenol

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14702-1

Sample Identification

HAR-19_041511_01
RD-49C_041511_01
HAR-14_041511_01
HAR-12_041511_01
HAR-19_041511_01MS
HAR-19_041511_01MSD

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Pentachlorophenol.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No pentachlorophenol was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14702-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Data Qualification Summary - SDG 280-14702-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14702-1	HAR-19_041511_01 RD-49C_041511_01 HAR-14_041511_01 HAR-12_041511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Laboratory Blank Data Qualification Summary - SDG 280-14702-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Field Blank Data Qualification Summary - SDG 280-14702-1**

No Sample Data Qualified in this SDG

LDC #: 25435B2d

VALIDATION COMPLETENESS WORKSHEET

SDG #: 280-14702-1

Level V

Laboratory: Test America, Inc.

Date: 5/16/11

Page: 1 of 1

Reviewer: *[Signature]*2nd Reviewer: *[Signature]*METHOD: GC/MS Pentachlorophenol (EPA SW846 Method 8270C-~~II~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/15/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS / D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

water

1	HAR-19_041511_01	11	MB 280-62647 / A-A	21		31
2	RD-49C_041511_01	12	MB 280-63239 / A-A	22		32
3	HAR-14_041511_01	13		23		33
4	HAR-12_041511_01	14		24		34
5	HAR-19_041511_01MS	15		25		35
6	HAR-19_041511_01MSD	16		26		36
7		17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 15, 2011
LDC Report Date: May 19, 2011
Matrix: Water
Parameters: Chlorinated Pesticides
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14702-1

Sample Identification

HAR-19_041511_01
RD-49C_041511_01
HAR-14_041511_01
HAR-12_041511_01
HAR-19_041511_01MS
HAR-19_041511_01MSD

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Column	Surrogate	%R (Limits)	Compound	Flag	A or P
HAR-12_041511_01	2	Decachlorobiphenyl	126 (20-120)	All TCL compounds	J (all detects)	P
MB 280-62885/1-A	2	Decachlorobiphenyl	126 (20-120)	All TCL compounds	J (all detects)	P

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

All target compound identifications were within validation criteria.

XIII. Compound Quantitation and Reported CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14702-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Data Qualification Summary - SDG 280-14702-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14702-1	HAR-12_041511_01	All TCL compounds	J (all detects)	P	Surrogate spikes (%R) (S)
280-14702-1	HAR-19_041511_01 RD-49C_041511_01 HAR-14_041511_01 HAR-12_041511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 280-14702-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Field Blank Data Qualification Summary - SDG 280-14702-1**

No Sample Data Qualified in this SDG

LDC #: 25435B3a
 SDG #: 280-14702-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/16/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/15/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional quality assurance and quality control	N	
X.	Florisil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation and reported CRQLs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates	N	
XVI.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: Water

1	HAR-19_041511_01	11	MB 280-6285/LA	21	31	
2	RD-49C_041511_01	12		22	32	
3	HAR-14_041511_01	13		23	33	
4	HAR-12_041511_01	14		24	34	
5	HAR-19_041511_01MS	15		25	35	
6	HAR-19_041511_01MSD	16		26	36	
7		17		27	37	
8		18		28	38	
9		19		29	39	
10		20		30	40	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 15, 2011
LDC Report Date: May 19, 2011
Matrix: Water
Parameters: Polychlorinated Biphenyls
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14702-1

Sample Identification

HAR-19_041511_01
RD-49C_041511_01
HAR-14_041511_01
HAR-12_041511_01
HAR-19_041511_01MS
HAR-19_041511_01MSD

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14702-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Data Qualification Summary - SDG 280-14702-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14702-1	HAR-19_041511_01 RD-49C_041511_01 HAR-14_041511_01 HAR-12_041511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 280-14702-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG 280-14702-1**

No Sample Data Qualified in this SDG

LDC #: 25435B3b
 SDG #: 280-14702-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/16/11
 Page: 1 of 1
 Reviewer: OV
 2nd Reviewer: W

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/15/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional quality assurance and quality control	N	
X.	Florisil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation and reported CRQLs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates	N	
XVI.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: Water

1	HAR-19_041511_01	11	MB 286-62885/1-A	21		31	
2	RD-49C_041511_01	12		22		32	
3	HAR-14_041511_01	13		23		33	
4	HAR-12_041511_01	14		24		34	
5	HAR-19_041511_01MS	15		25		35	
6	HAR-19_041511_01MSD	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 15, 2011
LDC Report Date: May 17, 2011
Matrix: Water
Parameters: Metals
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14702-1

Sample Identification

HAR-19_041511_01
RD-49A_041511_01
RD-49B_041511_01
RD-49B_041511_36
RD-49C_041511_01
HAR-14_041511_01
HAR-12_041511_01
HAR-19_041511_01F
RD-49A_041511_01F
RD-49B_041511_01F
RD-49B_041511_36F
RD-49C_041511_01F
HAR-14_041511_01F
HAR-12_041511_01F
HAR-19_041511_01MS
HAR-19_041511_01MSD
HAR-19_041511_01FMS
HAR-19_041511_01FMSD

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 18 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B, 6020, and 7000 for Metals. The metals analyzed were Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Iron Manganese Sodium	0.0249 mg/L 0.00169 mg/L 0.156 mg/L	HAR-19_041511_01 RD-49A_041511_01 RD-49B_041511_01 RD-49B_041511_36 HAR-14_041511_01 HAR-12_041511_01
PB (prep blank)	Sodium	0.101 mg/L	HAR-19_041511_01F RD-49A_041511_01F RD-49B_041511_01F RD-49B_041511_36F HAR-14_041511_01F HAR-12_041511_01F
PB (prep blank)	Thallium Tin	0.0000234 mg/L 0.000607 mg/L	HAR-19_041511_01F RD-49C_041511_01F HAR-14_041511_01F HAR-12_041511_01F
PB (prep blank)	Thallium Tin	0.0000260 mg/L 0.000749 mg/L	HAR-19_041511_01 RD-49C_041511_01 HAR-14_041511_01 HAR-12_041511_01

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
HAR-19_041511_01	Iron Thallium Tin	0.022 mg/L 0.000040 mg/L 0.00036 mg/L	0.022U mg/L 0.000040U mg/L 0.00036U mg/L
HAR-14_041511_01	Manganese Tin	0.0056 mg/L 0.00025 mg/L	0.0056U mg/L 0.00025U mg/L
HAR-12_041511_01	Manganese Tin	0.0011 mg/L 0.00023 mg/L	0.0011U mg/L 0.00023U mg/L
HAR-19_041511_01F	Thallium Tin	0.000046 mg/L 0.00043 mg/L	0.000046U mg/L 0.00043U mg/L
RD-49C_041511_01F	Thallium Tin	0.000021 mg/L 0.00050 mg/L	0.000021U mg/L 0.00050U mg/L
HAR-14_041511_01F	Thallium Tin	0.000021 mg/L 0.00029 mg/L	0.000021U mg/L 0.00029U mg/L
HAR-12_041511_01F	Tin	0.00017 mg/L	0.00017U mg/L
RD-49C_041511_01	Tin	0.0010 mg/L	0.0010U mg/L

No field blanks were identified in this SDG.

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
HAR-19_041511_01FMS/MSD (HAR-19_041511_01F RD-49A_041511_01F RD-49B_041511_01F RD-49B_041511_36F HAR-14_041511_01F HAR-12_041511_01F)	Calcium	-	74 (75-125)	-	J (all detects) JJ (all non-detects)	A

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution data were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-14702-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

Samples RD-49B_041511_01 and RD-49B_041511_36 and samples RD-49B_041511_01F and RD-49B_041511_36F were identified as field duplicates. No metals were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/Kg)		RPD (Limits)
	RD-49B_041511_01	RD-49B_041511_36	
Calcium	160	160	0 (≤35)

Analyte	Concentration (mg/Kg)		RPD (Limits)
	RD-49B_041511_01	RD-49B_041511_36	
Iron	0.87	0.90	3 (≤35)
Magnesium	25	25	0 (≤35)
Manganese	0.058	0.059	2 (≤35)
Potassium	4.5	4.6	2 (≤35)
Sodium	54	54	0 (≤35)
Strontium	0.58	0.59	2 (≤35)
Zinc	1.5	1.5	0 (≤35)

Analyte	Concentration (mg/Kg)		RPD (Limits)
	RD-49B_041511_01F	RD-49B_041511_36F	
Calcium	160	160	0 (≤35)
Iron	0.53	0.56	6 (≤35)
Magnesium	23	23	0 (≤35)
Manganese	0.055	0.057	4 (≤35)
Potassium	4.6	4.6	0 (≤35)
Sodium	53	53	0 (≤35)
Strontium	0.59	0.59	0 (≤35)
Zinc	1.4	1.4	0 (≤35)

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Data Qualification Summary - SDG 280-14702-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-14702-1	HAR-19_041511_01F RD-49A_041511_01F RD-49B_041511_01F RD-49B_041511_36F HAR-14_041511_01F HAR-12_041511_01F	Calcium	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
280-14702-1	HAR-19_041511_01 RD-49A_041511_01 RD-49B_041511_01 RD-49B_041511_36 RD-49C_041511_01 HAR-14_041511_01 HAR-12_041511_01 HAR-19_041511_01F RD-49A_041511_01F RD-49B_041511_01F RD-49B_041511_36F RD-49C_041511_01F HAR-14_041511_01F HAR-12_041511_01F	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Laboratory Blank Data Qualification Summary - SDG 280-14702-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-14702-1	HAR-19_041511_01	Iron Thallium Tin	0.022U mg/L 0.000040U mg/L 0.00036U mg/L	A	B
280-14702-1	HAR-14_041511_01	Manganese Tin	0.0056U mg/L 0.00025U mg/L	A	B
280-14702-1	HAR-12_041511_01	Manganese Tin	0.0011U mg/L 0.00023U mg/L	A	B
280-14702-1	HAR-19_041511_01F	Thallium Tin	0.000046U mg/L 0.00043U mg/L	A	B
280-14702-1	RD-49C_041511_01F	Thallium Tin	0.000021U mg/L 0.00050U mg/L	A	B
280-14702-1	HAR-14_041511_01F	Thallium Tin	0.000021U mg/L 0.00029U mg/L	A	B
280-14702-1	HAR-12_041511_01F	Tin	0.00017U mg/L	A	B
280-14702-1	RD-49C_041511_01	Tin	0.0010U mg/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Field Blank Data Qualification Summary - SDG 280-14702-1**

No Sample Data Qualified in this SDG

LDC #: 25435B4
 SDG #: 280-14702-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5-13-11
 Page: 1 of 1
 Reviewer: MG
 2nd Reviewer: [Signature]

METHOD: Metals (EPA SW 846 Method 6010B/6020/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4-15-11</u>
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	SW	MS/MSD
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	A	LCS
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	not utilized
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	
XIV.	Field Duplicates	SW	D = 3+4, D = 10+11
XV.	Field Blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinse
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:
all water

1	HAR-19_041511_01	11	RD-49B_041511_36F	21		31	
2	RD-49A_041511_01	12	RD-49C_041511_01F	22		32	
3	RD-49B_041511_01	13	HAR-14_041511_01F	23		33	
4	RD-49B_041511_36	14	HAR-12_041511_01F	24		34	
5	RD-49C_041511_01	15	HAR-19_041511_01MS	25		35	
6	HAR-14_041511_01	16	HAR-19_041511_01MSD	26		36	
7	HAR-12_041511_01	17	HAR-19_041511_01FMS	27		37	
8	HAR-19_041511_01F	18	HAR-19_041511_01FMSD	28		38	
9	RD-49A_041511_01F	19		29	PBW1	39	
10	RD-49B_041511_01F	20		30	PBW2	40	

Notes: Samples appended with "F" were analyzed for dissolved metals

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)

Soil preparation factor applied: NA

Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 1-4, 6, 7

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	1	6	7
Fe		0.0249		0.1245	0.022		
Mn		0.00169		0.00845		0.0056	0.0011
Na		0.156		0.78			

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)

Soil preparation factor applied: NA

Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 8-11, 13, 14 (>5x)

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	No Qual's.		
Na		0.101		0.505			

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)

Soil preparation factor applied: NA

Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 8, 12-14

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	8	12	13	14
Tl		0.0000234		0.000117	0.000046	0.000021	0.000021	
Sn		0.000607		0.003035	0.00043	0.00050	0.00029	0.00017

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)

Soil preparation factor applied: NA

Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 1, 5-7

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	1	5	6	7
Tl		0.0000260		0.00013	0.000040			
Sn		0.000749		0.003745	0.00036	0.0010	0.00025	0.00023

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note: a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: Metals (EPA Method 6010B/7000)

Y N NA
Y N NA

Were field duplicate pairs identified in this SDG?

Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)
	3	4	
Calcium	160	160	0
Iron	0.87	0.90	3
Magnesium	25	25	0
Manganese	0.058	0.059	2
Potassium	4.5	4.6	2
Sodium	54	54	0
Strontium	0.58	0.59	2
Zinc	1.5	1.5	0

V:\FIELD DUPLICATES\FD_inorganic\25435B4.WPD

Analyte	Concentration (mg/L)		RPD (≤35)
	10	11	
Calcium	160	160	0
Iron	0.53	0.56	6
Magnesium	23	23	0
Manganese	0.055	0.057	4
Potassium	4.6	4.6	0
Sodium	53	53	0
Strontium	0.59	0.59	0
Zinc	1.4	1.4	0

V:\FIELD DUPLICATES\FD_inorganic\25435B4.WPD

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 15, 2011

LDC Report Date: May 20, 2011

Matrix: Water

Parameters: Herbicides

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14702-1

Sample Identification

HAR-19_041511_01
RD-49C_041511_01
HAR-14_041511_01
HAR-12_041511_01
HAR-19_041511_01MS
HAR-19_041511_01MSD

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8151A for Herbicides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No herbicide contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14702-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Data Qualification Summary - SDG 280-14702-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14702-1	HAR-19_041511_01 RD-49C_041511_01 HAR-14_041511_01 HAR-12_041511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Laboratory Blank Data Qualification Summary - SDG 280-14702-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Field Blank Data Qualification Summary - SDG 280-14702-1**

No Sample Data Qualified in this SDG

LDC #: 25435B5
 SDG #: 280-14702-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/16/11
 Page: 1 of 1
 Reviewer: ML
 2nd Reviewer: LA

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/15/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	A	B
VII.	Laboratory control samples	A	LCS 1/2
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

N/A

1	HAR-19_041511_01	11	MB 280-62717/1-A	21		31	
2	RD-49C_041511_01	12		22		32	
3 ⁺	HAR-14_041511_01	13		23		33	
4 ⁺	HAR-12_041511_01	14		24		34	
5	HAR-19_041511_01MS	15		25		35	
6	HAR-19_041511_01MSD	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 15, 2011

LDC Report Date: May 17, 2011

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14702-1

Sample Identification

HAR-19_041511_01
RD-49A_041511_01
RD-49B_041511_01
RD-49B_041511_36
RD-49C_041511_01
HAR-14_041511_01
HAR-12_041511_01
HAR-19_041511_01MS
HAR-19_041511_01MSD
HAR-19_041511_01DUP
HAR-12_041511_01DUP

Introduction

This data review covers 11 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Standard Method 2320B for Alkalinity, EPA Method 350.1 for Ammonia as Nitrogen, EPA Method 300.0 for Chloride, Fluoride Nitrate, and Sulfate, Standard Method 2510B for Conductivity, EPA SW 846 Method 9012A for Cyanide, EPA Method 314.0 for Perchlorate, EPA SW 846 Method 9040B for pH, Standard Method 4500-S2 D for Sulfide, Standard Method 2540C for Total Dissolved Solids, and EPA Method 180.1 for Turbidity.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
PB (prep blank)	Alkalinity	1.13 mg/L	RD-49B_041511_36 HAR-14_041511_01 HAR-12_041511_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

No field blanks were identified in this SDG.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-14702-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

Samples RD-49B_041511_01 and RD-49B_041511_36 were identified as field duplicates. No contaminant concentrations were detected in any of the samples with the following exceptions:

Analyte	Concentration		RPD (Limits)
	RD-49B_041511_01	RD-49B_041511_36	
Fluoride	0.22 mg/L	0.22 mg/L	0 (≤35)
Chloride	45 mg/L	45 mg/L	0 (≤35)
Specific conductance	1200 umhos/cm	1100 umhos/cm	9 (≤35)
pH	7.17 pH units	7.12 pH units	1 (≤35)
Sulfate	260 mg/L	260 mg/L	0 (≤35)
Turbidity	11 NTU	10 NTU	10 (≤35)
Ammonia as N	0.069 mg/L	0.055U mg/L	23 (≤35)
Total dissolved solids	770 mg/L	770 mg/L	0 (≤35)
Alkalinity	330 mg/L	320 mg/L	3 (≤35)

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-14702-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-14702-1	HAR-19_041511_01 RD-49A_041511_01 RD-49B_041511_01 RD-49B_041511_36 RD-49C_041511_01 HAR-14_041511_01 HAR-12_041511_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-14702-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-14702-1**

No Sample Data Qualified in this SDG

LDC #: 25435B6
 SDG #: 280-14702-1
 Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5-16-11
 Page: 1 of 1
 Reviewer: MG
 2nd Reviewer: [Signature]

METHOD: (Analyte) Alkalinity (SM2320B), Ammonia-N (EPA Method 350.1), Chloride, Fluoride, Nitrate, Sulfate (EPA Method 300.0), Conductivity (SM2510B), Cyanide (EPA SW846 Method 9012A), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B), Sulfide (SM4500-S2 D), TDS (SM2540C), Turbidity (EPA Method 180.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4-15-11</u>
Ila.	Initial calibration	N	
Iib.	Calibration verification	N	
III.	Blanks	SW	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/MSD
V	Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS/LCSD
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	SW	D = 3+4
X.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:
all water

1	HAR-19_041511_01	11	HAR-12_041511_01DUP	21		31	
2	RD-49A_041511_01	12		22		32	
3	RD-49B_041511_01	13		23		33	
4	RD-49B_041511_36	14		24		34	
5	RD-49C_041511_01	15		25		35	
6	HAR-14_041511_01	16		26		36	
7	HAR-12_041511_01	17		27		37	
8	HAR-19_041511_01MS	18		28		38	
9	HAR-19_041511_01MSD	19		29	PBW1	39	
10	HAR-19_041511_01DUP	20		30	PBW2	40	

Notes: _____

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Inorganics, Method See Cover

- N NA Were field duplicate pairs identified in this SDG?
- N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	3	4		
Fluoride	0.22	0.22	0	
Chloride	45	45	0	
Specific Conductance (umhos/cm)	1200	1100	9	
pH (pH units)	7.17	7.12	1	
Sulfate	260	260	0	
Turbidity (NTU)	11	10	10	
Ammonia as N	0.069	0.055U	23	
TDS	770	770	0	
Alkalinity	330	320	3	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 15, 2011
LDC Report Date: May 20, 2011
Matrix: Water
Parameters: Diesel Range Organics
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14702-1

Sample Identification

HAR-19_041511_01
RD-49A_041511_01
RD-49B_041511_01
RD-49C_041511_01
HAR-14_041511_01
HAR-12_041511_01
HAR-19_041511_01MS
HAR-19_041511_01MSD

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Diesel Range Organics.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No diesel range organic contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
HAR-19_041511_01MS/MSD (HAR-19_041511_01)	Diesel range organics (C12-C14)	-	-	31 (≤30)	J (all detects)	A
HAR-19_041511_01MS/MSD (HAR-19_041511_01)	Diesel range organics (C21-C30)	69 (75-115)	-	35 (≤30)	J (all detects) UJ (all non-detects)	A

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14702-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Data Qualification Summary - SDG 280-14702-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14702-1	HAR-19_041511_01	Diesel range organics (C12-C14)	J (all detects)	A	Matrix spike/Matrix spike duplicate (RPD) (Q)
280-14702-1	HAR-19_041511_01	Diesel range organics (C21-C30)	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R)(RPD) (Q)
280-14702-1	HAR-19_041511_01 RD-49A_041511_01 RD-49B_041511_01 RD-49C_041511_01 HAR-14_041511_01 HAR-12_041511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Laboratory Blank Data Qualification Summary - SDG 280-14702-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Field Blank Data Qualification Summary - SDG 280-14702-1**

No Sample Data Qualified in this SDG

LDC #: 25435B8
 SDG #: 280-14702-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/16/11
 Page: 1 of 1
 Reviewer: JVK
 2nd Reviewer: [Signature]

8015 B

METHOD: GC Diesel Range Organics (Oklahoma Department of Environmental Quality)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/15/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	SW	
VII.	Laboratory control samples	A	LCS / D
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

1	HAR-19_041511_01	11	MB 280-62991/1-A	21	31
2	RD-49A_041511_01	12		22	32
3	RD-49B_041511_01	13		23	33
4	RD-49C_041511_01	14		24	34
5	HAR-14_041511_01	15		25	35
6	HAR-12_041511_01	16		26	36
7	HAR-19_041511_01MS	17		27	37
8	HAR-19_041511_01MSD	18		28	38
9		19		29	39
10		20		30	40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 15, 2011
LDC Report Date: May 19, 2011
Matrix: Water
Parameters: 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14702-1

Sample Identification

HAR-19_041511_01
TB_HAR-19_041511
RD-49C_041511_01
TB_RD-49C_041511
HAR-14_041511_01
TB_HAR-14_041511
HAR-12_041511_01
HAR-19_041511_01MS
HAR-19_041511_01MSD

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 504.1 for 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in the method blanks.

Samples TB_HAR-19_04151, TB_RD-49C_041511, and TB_HAR-14_041511 were identified as trip blanks. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in these blanks.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14702-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Data Qualification Summary -
 SDG 280-14702-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14702-1	HAR-19_041511_01 TB_HAR-19_041511 RD-49C_041511_01 TB_RD-49C_041511 HAR-14_041511_01 TB_HAR-14_041511 HAR-12_041511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Laboratory Blank Data
 Qualification Summary - SDG 280-14702-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Field Blank Data Qualification
 Summary - SDG 280-14702-1**

No Sample Data Qualified in this SDG

LDC #: 25435B10

VALIDATION COMPLETENESS WORKSHEET

SDG #: 280-14702-1

Level V

Laboratory: Test America, Inc.

Date: 5/16/11

Page: 1 of 1

Reviewer: *SVK*2nd Reviewer: *[Signature]*

METHOD: GC 1,2-Dibromomethane & 1,2-Dibromo-3-chloropropane (EPA Method 504.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/15/11
II	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	A	
VII.	Laboratory control samples	A	LCS / D
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	TB = 2, 4, 6

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinstate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

W/ATCV

1	HAR-19_041511_01	11	MB 280-63831/A-A	21		31	
2	TB HAR-19_041511	12		22		32	
3	RD-49C_041511_01	13		23		33	
4	TB_RD-49C_041511	14		24		34	
5	HAR-14_041511_01	15		25		35	
6	TB HAR-14_041511	16		26		36	
7	HAR-12_041511_01	17		27		37	
8	HAR-19_041511_01MS	18		28		38	
9	HAR-19_041511_01MSD	19		29		39	
10		20		30		40	

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 15, 2011
LDC Report Date: May 19, 2011
Matrix: Water
Parameters: Organophosphorus Pesticides
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14702-1

Sample Identification

HAR-19_041511_01
RD-49C_041511_01
HAR-14_041511_01
HAR-12_041511_01
HAR-19_041511_01MS
HAR-19_041511_01MSD

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8141A for Organophosphorus Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No organophosphorus pesticide contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG280-14702-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Data Qualification Summary - SDG 280-14702-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14702-1	HAR-19_041511_01 RD-49C_041511_01 HAR-14_041511_01 HAR-12_041511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Laboratory Blank Data Qualification Summary - SDG 280-14702-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Field Blank Data Qualification Summary - SDG 280-14702-1**

No Sample Data Qualified in this SDG

LDC #: 25435B17

VALIDATION COMPLETENESS WORKSHEET

Date: 5/16/11

SDG #: 280-14702-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: SVB

2nd Reviewer: L

METHOD: GC Organophosphorus Pesticides (EPA SW 846 Method 8141A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/15/11
II	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	A	
VII.	Laboratory control samples	A	LCS 10
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	HAR-19_041511_01	11	MB 280-62874/1-A	21		31	
2	RD-49C_041511_01	12		22		32	
3	HAR-14_041511_01	13		23		33	
4	HAR-12_041511_01	14		24		34	
5	HAR-19_041511_01MS	15		25		35	
6	HAR-19_041511_01MSD	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 15, 2011
LDC Report Date: May 19, 2011
Matrix: Water
Parameters: Hexachlorophene
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14702-1

Sample Identification

HAR-19_041511_01
RD-49C_041511_01
HAR-14_041511_01
HAR-12_041511_01
HAR-19_041511_01MS
HAR-19_041511_01MSD

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8321A for Hexachlorophene.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No hexachlorophene was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14702-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Data Qualification Summary - SDG 280-14702-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14702-1	HAR-19_041511_01 RD-49C_041511_01 HAR-14_041511_01 HAR-12_041511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Laboratory Blank Data Qualification Summary - SDG 280-14702-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Field Blank Data Qualification Summary - SDG 280-14702-1**

No Sample Data Qualified in this SDG

LDC #: 25435B44

VALIDATION COMPLETENESS WORKSHEET

Date: 5/16/11

SDG #: 280-14702-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: DL

2nd Reviewer: LA

METHOD: LC/MS Hexachlorophene (EPA SW 846 Method 8321A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/15/11</u>
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	<u>LCS</u>
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	HAR-19_041511_01	11	<u>MB 280-67489/11</u>	21		31	
2	RD-49C_041511_01	12		22		32	
3	HAR-14_041511_01	13		23		33	
4	HAR-12_041511_01	14		24		34	
5	HAR-19_041511_01MS	15		25		35	
6	HAR-19_041511_01MSD	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 15, 2011

LDC Report Date: May 19, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14702-1/A1D160428

Sample Identification

HAR-19_041511_01

RD-49A_041511_01

RD-49B_041511_01

RD-49B_041511_36

RD-49C_041511_01

HAR-14_041511_01

HAR-12_041511_01

HAR-19_041511_01MS

HAR-19_041511_01MSD

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14702-1/A1D160428	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples RD-49B_041511_01 and RD-49B_041511_36 were identified as field duplicates. No formaldehyde was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	RD-49B_041511_01	RD-49B_041511_36			
Formaldehyde	15	9.5	45 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Data Qualification Summary - SDG 280-14702-1/A1D160428**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14432-1/ A1D090421	HAR-19_041511_01 RD-49A_041511_01 RD-49B_041511_01 RD-49B_041511_36 RD-49C_041511_01 HAR-14_041511_01 HAR-12_041511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-14702-1/A1D160428**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Field Blank Data Qualification Summary - SDG 280-14702-1/A1D160428**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Data Qualification Summary - SDG 280-14702-1/A1D160428**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14702-1/ A1D160428	HAR-19_041511_01 RD-49A_041511_01 RD-49B_041511_01 RD-49B_041511_36 RD-49C_041511_01 HAR-14_041511_01 HAR-12_041511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-14702-1/A1D160428**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Field Blank Data Qualification Summary - SDG 280-14702-1/A1D160428**

No Sample Data Qualified in this SDG

LDC #: 25435B71 **VALIDATION COMPLETENESS WORKSHEET**

SDG #: 280-14702-1/A1D160428

Level V

Laboratory: Test America, Inc.

Date: 5/7/11

Page: 1 of 1

Reviewer: JG

2nd Reviewer: [Signature]

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/15/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	A	
VII.	Laboratory control samples	A	LCS
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	SW	D = 3, 4
XIII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	HAR-19_041511_01	11	1106073-MB	21		31	
2	RD-49A_041511_01	12		22		32	
3	RD-49B_041511_01	13		23		33	
4	RD-49B_041511_36	14		24		34	
5	RD-49C_041511_01	15		25		35	
6	HAR-14_041511_01	16		26		36	
7	HAR-12_041511_01	17		27		37	
8	HAR-19_041511_01MS	18		28		38	
9	HAR-19_041511_01MSD	19		29		39	
10		20		30		40	

Notes: _____

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: HPLC Formaldehyde (EPA SW 846 Method 8315)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent only)
	3	4		
Formaldehyde	15	9.5	45	NQ (<5XRL)

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 15, 2011

LDC Report Date: May 19, 2011

Matrix: Water

Parameters: Hydrazines

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14702-1

Sample Identification

HAR-19_041511_01
RD-49A_041511_01
RD-49B_041511_01
RD-49B_041511_36
RD-49C_041511_01
HAR-14_041511_01
HAR-12_041511_01
HAR-19_041511_01MS
HAR-19_041511_01MSD

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DVWC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazine contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG280-14702-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples RD-49B_041511_01 and RD-49B_041511_36 were identified as field duplicates. No hydrazines were detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-14702-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14702-1	HAR-19_041511_01 RD-49A_041511_01 RD-49B_041511_01 RD-49B_041511_36 RD-49C_041511_01 HAR-14_041511_01 HAR-12_041511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-14702-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-14702-1**

No Sample Data Qualified in this SDG

LDC #: 25435B76
 SDG #: 280-14702-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/16/11
 Page: 1 of 1
 Reviewer: JV
 2nd Reviewer: W

METHOD: HPLC Hydrazines (Method DVWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/15/11</u>
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	A	
VII.	Laboratory control samples	A	<u>LCS 10</u>
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	ND	<u>D = 3, 4</u>
XIII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: WATER

1	HAR-19_041511_01	11	<u>MIB 280-63109/33</u>	21		31	
2	RD-49A_041511_01	12		22		32	
3	RD-49B_041511_01	13		23		33	
4	RD-49B_041511_36	14		24		34	
5	RD-49C_041511_01	15		25		35	
6	HAR-14_041511_01	16		26		36	
7	HAR-12_041511_01	17		27		37	
8	HAR-19_041511_01MS	18		28		38	
9	HAR-19_041511_01MSD	19		29		39	
10		20		30		40	

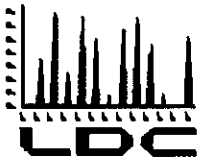
Notes: _____

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter	
1-5	W	Hydrazine <u>1,1-Dimethylhydrazine</u> Monomethyl Hydrazine	
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine	
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine	
6,7	W	<u>Hydrazine</u> <u>1,1-Dimethylhydrazine</u> <u>Monomethyl Hydrazine</u>	
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine	
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine	
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine	
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine	
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine	
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine	
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine	
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine	
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine	
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine	
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine	
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine	
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine	
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine	
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine	

Comments: _____



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 27, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

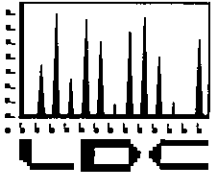
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 10, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25435:

<u>SDG #</u>	<u>Fraction</u>
280-14484-1/ IUD1261/ A1D120533 280-14702-1/ IUD1801/ A1D160428	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Pentachlorophenol, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane, Organophosphorus Pesticides, Hexachloroethane, Formaldehyde, Hydrazine
280-14702-2 280-14817-2	N-Nitrosodimethylamine, Perchlorate
280-14837-1/ H1D210424 280-14869-1/ H1D220445 280-14944-1/ H1D230409	Dioxins/Dibenzofurans
280-14927-2 280-15126-2 280-15184-2	N-Nitrosodimethylamine

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010



- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Pei Geng', written in a cursive style.

Pei Geng
Project Manager/Senior Chemist

LDC #25435 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane 8260B-S		1,2,3-TCP (524.2)		SVOA (8270C)		SVOA (8270C)-SIM		PCP (8270C-LL)		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (8015B)		EDB (504.1)		Formaldehyde (8315)		Hexachlorophene (8321A)		OPHS Pest. (8141A)		Herbs (8151A)																															
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S																														
Matrix: Water/Soil																																																																			
A	280-14484-1/ IUD1261/ A1D120533	05/10/11	06/01/11	11	0	10	0	6	0	7	0	2	0	4	0	7	0	4	0	4	0	6	0	5	0	7	0	3	0	6	0	5	0	4	0	4	0	4	0																												
B	280-14702-1/ IUD1801/ A1D160428	05/10/11	06/01/11	11	0	10	0	7	0	7	0	-	4	0	7	0	4	0	4	0	4	0	7	0	7	0	6	0	7	0	7	0	4	0	4	0	4	0																													
C	280-14702-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	-	5	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																													
D	280-14817-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	-	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																													
G	280-14927-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	-	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																													
I	280-15126-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																													
J	280-15184-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																													
Total				22		0		20		13		0		14		0		2		0		8		0		31		0		8		0		10		0		12		0		14		0		9		0		13		0		12		0		8		0		8		0		212	

LDC #25435 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydrazine (DVWC)		CLO ₄ (6860)		Dioxins (8290)		Alk. (2320B)		NH ₃ -N (350.1)		Cl SO ₄ (300.0)		NO ₂ O-PO ₄		F NO ₃ (300.0)		CN- (9012A)		Cond. (2510B)		CLO ₄ (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)		S= (4500 -S2 D)							
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S		
Matrix: Water/Soil																																											
A	280-14484-1	05/10/11	06/01/11	1	0	-	-	-	-	-	-	-	-	2	0	5	0	4	0	2	0	7	0	4	0	2	0	5	0	5	0	2	0	2	0	2	0	4	0				
B	280-14702-1	05/10/11	06/01/11	7	0	2	0	2	0	-	-	-	-	6	0	7	0	6	0	-	-	7	0	4	0	6	0	7	0	7	0	6	0	6	0	6	0	4	0				
C	280-14702-2	05/10/11	06/01/11	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
D	280-14817-2	05/10/11	06/01/11	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
E	280-14837-1/ H1D210424	05/10/11	06/01/11	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
F	280-14869-1/ H1D220445	05/10/11	06/01/11	-	-	-	-	-	-	-	-	5	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
H	280-14944-1/ H1D230409	05/10/11	06/01/11	-	-	-	-	-	-	-	-	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Total				8		0		2		0		3		0		11		0		2		0		14		0		8		0		12		0		8		0		8		136	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 15, 2011

LDC Report Date: May 18, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14702-2

Sample Identification

FB_RD-49B_041511_19
RD-49C_041511_36
FB_RD-49C_041511_19
HAR-14_041511_36
FB_HAR-14_041511_19

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-nitrosodimethylamine was found in the method blanks.

Samples FB_RD-49B_041511_19, FB_RD-49C_041511_19, and FB_HAR-14_041511_19 were identified as field blanks. No N-nitrosodimethylamine was found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14702-2	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RD-49C_041511_36 and RD-49C_041511_01 (from SDG 280-14702-1) and HAR-14_041511_36 and HAR-14_041511_01 (from SDG 280-14702-1) were identified as field duplicates. No N-nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	RD-49C_041511_01	RD-49C_041511_36			
N-nitrosodimethylamine	0.011	0.014	24 (≤35)	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-14_041511_01	HAR-14_041511_36			
N-nitrosodimethylamine	2.8	2.2	24 (≤35)	-	-

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-14702-2**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14702-2	FB_RD-49B_041511_19 RD-49C_041511_36 FB_RD-49C_041511_19 HAR-14_041511_36 FB_HAR-14_041511_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary – SDG 280-14702-2**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-14702-2**

No Sample Data Qualified in this SDG

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/15/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS 10
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D ₁ = 2 + RD-49C-041511-01 (280-14702-1) D ₂ = 4 + HAR-14-041511-01
XVII.	Field blanks	ND	TB = 1, 3, 5

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

1	FB RD-49B_041511_19	11	MB 280-63284/1-A	21	31
2	RD-49C_041511_36	12	MB 280-63540/1-A	22	32
3	FB RD-49C_041511_19	13		23	33
4	HAR-14_041511_36	14		24	34
5	FB HAR-14_041511_19	15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GCMS NDMA (EPA Method 1625M)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35%)	Qualifications (Parent Only)
	RD-49C_041511_01	RD-49C_041511_36	RPD	
NDMA	0.011	0.014	24	

Compound	Concentration (ug/L)		(≤35%)	Qualifications (Parent Only)
	HAR-14_041511_01	HAR-14_041511_36	RPD	
NDMA	2.8	2.2	24	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 15, 2011

LDC Report Date: May 19, 2011

Matrix: Water

Parameters: Perchlorate

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14702-2

Sample Identification

RD-49C_041511_01

RD-49C_041511_01MS

RD-49C_041511_01MSD

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW846 Method 6860 for Perchlorate.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No perchlorate was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14702-2	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 1st Qtr, 2011
Perchlorate - Data Qualification Summary - SDG 280-14702-2**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14702-2	RD-49C_041511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 1st Qtr, 2011
Perchlorate - Laboratory Blank Data Qualification Summary - SDG 280-14702-2**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 1st Qtr, 2011
Perchlorate - Field Blank Data Qualification Summary - SDG 280-14702-2**

No Sample Data Qualified in this SDG

METHOD: LC/MS Perchlorate (EPA SW846 Method 6860)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

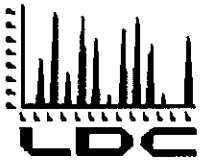
	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/15/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

1	RD-49C_041511_01	11	MB 280-64876/4	21	31
2	RD-49C_041511_01MS	12		22	32
3	RD-49C_041511_01MSD	13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 27, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

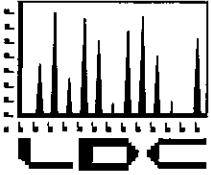
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 10, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25435:

<u>SDG #</u>	<u>Fraction</u>
280-14484-1/ IUD1261/ A1D120533 280-14702-1/ IUD1801/ A1D160428	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Pentachlorophenol, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane, Organophosphorus Pesticides, Hexachloroethane, Formaldehyde, Hydrazine
280-14702-2 280-14817-2	N-Nitrosodimethylamine, Perchlorate
280-14837-1/ H1D210424 280-14869-1/ H1D220445 280-14944-1/ H1D230409	Dioxins/Dibenzofurans
280-14927-2 280-15126-2 280-15184-2	N-Nitrosodimethylamine

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010



- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 19, 2011

LDC Report Date: May 19, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14817-2

Sample Identification

HAR-08_041911_36

FB_HAR-08_041911_19

HAR-23_041911_36

FB_HAR-23_041911_19

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-nitrosodimethylamine was found in the method blanks.

Samples FB_HAR-08_041911_19 and FB_HAR-23_041911_19 were identified as field blanks. No N-nitrosodimethylamine was found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14817-2	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-08_041911_36 and HAR-08_041911_01 (from SDG 280-14817-1) and samples HAR-23_041911_36 and HAR-23_041911_01 (from SDG 280-14817-1) were identified as field duplicates. No N-nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-08_041911_01	HAR-08_041911_36			
N-nitrosodimethylamine	0.019	0.017	11 (≤35)	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-23_041911_01	HAR-23_041911_36			
N-nitrosodimethylamine	0.026	0.025	4 (≤35)	-	-

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-14817-2**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14817-2	HAR-08_041911_36 FB_HAR-08_041911_19 HAR-23_041911_36 FB_HAR-23_041911_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary – SDG 280-14817-2**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-14817-2**

No Sample Data Qualified in this SDG

LDC #: 25435D2b
 SDG #: 280-14817-2
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/16/11
 Page: 1 of 1
 Reviewer: *[Signature]*
 2nd Reviewer: *[Signature]*

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/19/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS 10
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D ₁ = 1 + HAR-08_041911_01 D = 3 + HAR-23_041911-01 > from 280-14817-1
XVII.	Field blanks	ND	FB = 2, 4

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1 ⁺	HAR-08_041911_36	D ₁	11	MIB 280-63540 / 1-A	21	31
2	FB HAR-08_041911_19		12		22	32
3 ⁺	HAR-23_041911_36	D ₁	13		23	33
4	FB HAR-23_041911_19		14		24	34
5			15		25	35
6			16		26	36
7			17		27	37
8			18		28	38
9			19		29	39
10			20		30	40

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GCMS NDMA (EPA Method 1625M)

- Y/N NA Were field duplicate pairs identified in this SDG?
- Y/N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent Only)
	HAR-08_041911_01	HAR-08_041911_36		
NDMA	0.019	0.017	11	

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent Only)
	HAR-23_041911_01	HAR-23_041911_36		
NDMA	0.026	0.025	4	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 19, 2011

LDC Report Date: May 19, 2011

Matrix: Water

Parameters: Perchlorate

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14817-2

Sample Identification

HAR-29_041911_01

HAR-13_041911_01

HAR-29_041911_01MS

HAR-29_041911_01MSD

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW846 Method 6860 for Perchlorate.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No perchlorate was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14817-2	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 1st Qtr, 2011
 Perchlorate - Data Qualification Summary - SDG 280-14817-2**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14817-2	HAR-29_041911_01 HAR-13_041911_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 1st Qtr, 2011
 Perchlorate - Laboratory Blank Data Qualification Summary - SDG 280-14817-2**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 1st Qtr, 2011
 Perchlorate - Field Blank Data Qualification Summary - SDG 280-14817-2**

No Sample Data Qualified in this SDG

LDC #: 25435D87 **VALIDATION COMPLETENESS WORKSHEET**

SDG #: 280-14817-2

Level V

Laboratory: Test America, Inc.

Date: 5/16/11

Page: 1 of 1

Reviewer: JYK

2nd Reviewer: [Signature]

METHOD: LC/MS Perchlorate (EPA SW846 Method 6860)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

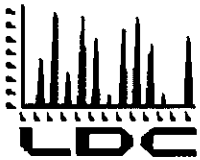
	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/19/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LES
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

1	HAR-29_041911_01	11	MB 280-62846/4	21	31
2	HAR-13_041911_01	12		22	32
3	HAR-29_041911_01MS	13		23	33
4	HAR-29_041911_01MSD	14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 27, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

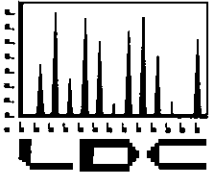
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 10, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25435:

<u>SDG #</u>	<u>Fraction</u>
280-14484-1/ IUD1261/ A1D120533 280-14702-1/ IUD1801/ A1D160428	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Pentachlorophenol, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane, Organophosphorus Pesticides, Hexachloroethane, Formaldehyde, Hydrazine
280-14702-2 280-14817-2	N-Nitrosodimethylamine, Perchlorate
280-14837-1/ H1D210424 280-14869-1/ H1D220445 280-14944-1/ H1D230409	Dioxins/Dibenzofurans
280-14927-2 280-15126-2 280-15184-2	N-Nitrosodimethylamine

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010



- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

Client Select IV LDC #25435 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane (8260B-S)		1,2,3-TCP (524-2)		SVOA (8270C)		SVOA (8270C-SIM)		PCP (8270C-LL)		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (8015B)		EDB (504.1)		Formaldehyde (8315)		Hexachlorophene (8321A)		OPHS Pest. (8141A)		Herbs (8151A)			
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S		
Matrix: Water/Soil																																							
A	280-14484-1/ IUD1261/ A1D120533	05/10/11	06/01/11	11	0	10	0	6	0	7	0	2	0	4	0	7	0	4	0	4	0	6	0	5	0	7	0	3	0	6	0	5	0	4	0	4	0	4	0
B	280-14702-1/ IUD1801/ A1D160428	05/10/11	06/01/11	11	0	10	0	7	0	7	0	-	4	0	7	0	4	0	4	0	4	0	7	0	7	0	6	0	7	0	7	0	4	0	4	0	4	0	
C	280-14702-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	-	5	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
D	280-14817-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	-	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
G	280-14927-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	-	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
I	280-15126-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
J	280-15184-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total																																							
T/PG				22	0	20	0	13	0	14	0	2	0	8	0	31	0	8	0	10	0	10	0	12	0	14	0	9	0	13	0	12	0	8	0	8	0	8	212

Client Select IV LDC #25435 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydra-zine (DVWC)		CLO ₄ (6960)		Dioxins (8290)		Alk. (2320B)		NH ₃ -N (350.1)		CI SO ₄ (300.0)		NO ₂ O-PO ₄		F NO ₃ (300.0)		CN- (9012A)		Cond. (2510B)		CLO ₄ (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)		S= (4500 -S2 D)			
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
Matrix: Water/Soil																																							
A	280-14484-1	05/10/11	06/01/11	1	0	-	-	-	-	-	-	-	-	2	0	5	0	4	0	2	0	2	0	7	0	4	0	2	0	5	0	5	0	2	0	2	0	4	0
B	280-14702-1	05/10/11	06/01/11	7	0	2	0	2	0	-	-	-	-	6	0	7	0	6	0	-	-	-	-	7	0	4	0	6	0	7	0	7	0	6	0	6	0	4	0
C	280-14702-2	05/10/11	06/01/11	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
D	280-14817-2	05/10/11	06/01/11	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
E	280-14837-1/ H1D210424	05/10/11	06/01/11	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
F	280-14869-1/ H1D220445	05/10/11	06/01/11	-	-	-	-	-	-	-	-	5	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
H	280-14944-1/ H1D230409	05/10/11	06/01/11	-	-	-	-	-	-	-	-	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total																																							
T/PG				8	0	2	0	2	0	3	0	11	0	8	0	12	0	10	0	2	0	2	0	14	0	8	0	8	0	12	0	12	0	8	0	8	0	8	136

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 19, 2011

LDC Report Date: May 20, 2011

Matrix: Water

Parameters: Dioxins/Dibenzofurans

Validation Level: EPA Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14837-1/H1D210424

Sample Identification

HAR-29_041911_01

HAR-08_041911_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Routine Calibration (Continuing)

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
1115071-MB	4/25/11	2,3,7,8-TCDF	24 pg/L	All samples in SDG 280-14837-1/H1D210424

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

No field blanks were identified in this SDG.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

Internal standards data were not reviewed for Level V.

X. Target Compound Identifications

Raw data were not reviewed for this SDG.

XI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14837-1/H1D210424	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XII. System Performance

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-14837-1/H1D210424**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14837-1/H1D210424	HAR-29_041911_01 HAR-08_041911_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-14837-1/H1D210424**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-14837-1/H1D210424**

No Sample Data Qualified in this SDG

LDC #: 25435E21 **VALIDATION COMPLETENESS WORKSHEET**

SDG #: 280-14837-1/H1D210424

Level: V

Laboratory: Test America Inc.

Date: 5/16/11

Page: 1 of 1

Reviewer: JY

2nd Reviewer: [Signature]

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/19/11
II.	HRGC/HRMS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Routine calibration/ICV	N	
V.	Blanks	SW	
VI.	Matrix spike/Matrix spike duplicates	N	Client spec
VII.	Laboratory control samples	A	LCS ID
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	N	
X.	Target compound identifications	N	
XI.	Compound quantitation and CRQLs	N	
XII.	System performance	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: WAT 07

1	HAR-29_041911_01	11	1115071 - Mb	21		31	
2	HAR-08_041911_01	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

VALIDATION FINDINGS WORKSHEET

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

A. 2,3,7,8-TCDD	F. 1,2,3,4,6,7,8-HpCDD	K. 1,2,3,4,7,8-HxCDF	P. 1,2,3,4,7,8,9-HpCDF	U. Total HpCDD
B. 1,2,3,7,8-PeCDD	G. OCDD	L. 1,2,3,6,7,8-HxCDF	Q. OCDF	V. Total TCDF
C. 1,2,3,4,7,8-HxCDD	H. 2,3,7,8-TCDF	M. 2,3,4,6,7,8-HxCDF	R. Total TCDD	W. Total PeCDF
D. 1,2,3,6,7,8-HxCDD	I. 1,2,3,7,8-PeCDF	N. 1,2,3,7,8,9-HxCDF	S. Total PeCDD	X. Total HxCDF
E. 1,2,3,7,8,9-HxCDD	J. 2,3,4,7,8-PeCDF	O. 1,2,3,4,6,7,8-HpCDF	T. Total HxCDD	Y. Total HpCDF

Notes:

VALIDATION FINDINGS WORKSHEET

Blanks

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A

Were all samples associated with a method blank?

Y N N/A

Was a method blank performed for each matrix and whenever a sample extraction was performed?

Y N N/A

Was the method blank contaminated?

Blank extraction date: 4/25/11 Blank analysis date: 4/28/11

Associated samples: A11 (MD)

Conc. units: pg/L

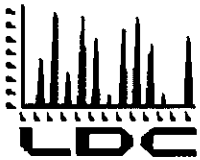
Compound	Blank ID	Sample Identification
	1115071-MB	
* H	24	
* E M P C		

Blank extraction date: Blank analysis date: Associated Samples:

Conc. units: Associated Samples:

Compound	Blank ID	Sample Identification

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT: All contaminants within five times the method blank concentration were qualified as not detected, "U".



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 27, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

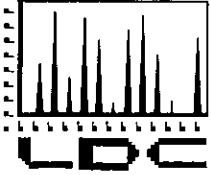
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 10, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25435:

<u>SDG #</u>	<u>Fraction</u>
280-14484-1/ IUD1261/ A1D120533 280-14702-1/ IUD1801/ A1D160428	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Pentachlorophenol, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane, Organophosphorus Pesticides, Hexachloroethane, Formaldehyde, Hydrazine
280-14702-2 280-14817-2	N-Nitrosodimethylamine, Perchlorate
280-14837-1/ H1D210424 280-14869-1/ H1D220445 280-14944-1/ H1D230409	Dioxins/Dibenzofurans
280-14927-2 280-15126-2 280-15184-2	N-Nitrosodimethylamine

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010



- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

LDC #25435 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane 8260B-S		1,2,3-TCP (524.2)		SVOA (8270C)		SVOA (8270C-SIM)		PCP (8270C-LL)		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (8015B)		EDB (504.1)		Formaldehyde (8315)		Hexachlorophene (8321A)		OPHS Pest. (8141A)		Herbs (8151A)				
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S			
Matrix: Water/Soil																																								
A	280-14484-1/ IUD1261/ A1D120533	05/10/11	06/01/11	11	0	10	0	6	0	7	0	2	0	4	0	7	0	4	0	4	0	6	0	5	0	7	0	3	0	6	0	5	0	4	0	4	0	4	0	
B	280-14702-1/ IUD1801/ A1D160428	05/10/11	06/01/11	11	0	10	0	7	0	7	0	-	4	0	7	0	4	0	4	0	4	0	7	0	7	0	6	0	7	0	7	0	4	0	4	0	4	0		
C	280-14702-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	5	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
D	280-14817-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
G	280-14927-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
I	280-15126-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
J	280-15184-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Total																																								
TYPG				22	0	20	0	13	0	14	0	2	0	8	0	31	0	8	0	10	0	10	0	12	0	14	0	9	0	13	0	12	0	8	0	8	0	8	0	212

LDC #25435 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydrazine (DVWC)		CLO ₄ (6860)		Dioxins (8290)		Alk. (2320B)		NH ₃ -N (350.1)		Cl SO ₄ (300.0)		NO ₂ O-PO ₄		F NO ₃ (300.0)		CN- (9012A)		Cond. (2510B)		CLO ₄ (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)		S= (4500 -S2 D)				
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	
Matrix: Water/Soil																																								
A	280-14484-1	05/10/11	06/01/11	1	0	-	-	-	-	-	-	-	-	2	0	5	0	4	0	2	0	7	0	4	0	2	0	5	0	5	0	2	0	2	0	2	0	4	0	
B	280-14702-1	05/10/11	06/01/11	7	0	2	0	2	0	-	-	-	-	6	0	7	0	6	0	-	-	7	0	4	0	6	0	7	0	7	0	6	0	6	0	6	0	4	0	
C	280-14702-2	05/10/11	06/01/11	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
D	280-14817-2	05/10/11	06/01/11	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
E	280-14837-1/ H1D210424	05/10/11	06/01/11	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
F	280-14869-1/ H1D220445	05/10/11	06/01/11	-	-	-	-	-	-	-	-	5	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
H	280-14944-1/ H1D230409	05/10/11	06/01/11	-	-	-	-	-	-	-	-	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total																																								
TYPG				8	0	2	0	2	0	3	0	11	0	8	0	12	0	10	0	2	0	14	0	14	0	8	0	8	0	12	0	12	0	8	0	8	0	8	0	136

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: May 20, 2011

Matrix: Water

Parameters: Dioxins/Dibenzofurans

Validation Level: EPA Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14869-1/H1D220445

Sample Identification

HAR-01_042011_01
HAR-03_042011_01
HAR-04_042011_01
HAR-16_042011_01
HAR-16_042011_36

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Routine Calibration (Continuing)

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
1115071-MB	4/25/11	2,3,7,8-TCDF	24 pg/L	All samples in SDG 280-14869-1/H1D220445

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

No field blanks were identified in this SDG.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

Internal standards data were not reviewed for Level V.

X. Target Compound Identifications

Raw data were not reviewed for this SDG.

XI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14869-1/H1D220445	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XII. System Performance

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

Samples HAR-16_042011_01 and HAR-16_042011_36 were identified as field duplicates. No polychlorinated dioxins/dibenzofurans were detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-14869-1/H1D220445**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14869-1/H1D220445	HAR-01_042011_01 HAR-03_042011_01 HAR-04_042011_01 HAR-16_042011_01 HAR-16_042011_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-14869-1/H1D220445**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-14869-1/H1D220445**

No Sample Data Qualified in this SDG

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II.	HRGC/HRMS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Routine calibration/ICV	N	
V.	Blanks	SW	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	2 QS 1 D
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	N	
X.	Target compound identifications	N	
XI.	Compound quantitation and CRQLs	N	
XII.	System performance	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	ND	b = 4, 5
XV.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

water

1	HAR-01_042011_01	11	1115071-MB	21		31	
2	HAR-03_042011_01	12		22		32	
3	HAR-04_042011_01	13		23		33	
4	HAR-16_042011_01	14		24		34	
5	HAR-16_042011_36	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

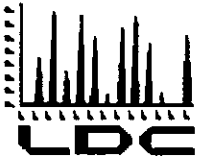
Notes: _____

VALIDATION FINDINGS WORKSHEET

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

A. 2,3,7,8-TCDD	F. 1,2,3,4,6,7,8-HpCDD	K. 1,2,3,4,7,8-HxCDF	P. 1,2,3,4,7,8,9-HpCDF	U. Total HpCDD
B. 1,2,3,7,8-PeCDD	G. OCDD	L. 1,2,3,6,7,8-HxCDF	Q. OCDF	V. Total TCDF
C. 1,2,3,4,7,8-HxCDD	H. 2,3,7,8-TCDF	M. 2,3,4,6,7,8-HxCDF	R. Total TCDD	W. Total PeCDF
D. 1,2,3,6,7,8-HxCDD	I. 1,2,3,7,8-PeCDF	N. 1,2,3,7,8,9-HxCDF	S. Total PeCDD	X. Total HxCDF
E. 1,2,3,7,8,9-HxCDD	J. 2,3,4,7,8-PeCDF	O. 1,2,3,4,6,7,8-HpCDF	T. Total HxCDD	Y. Total HpCDF

Notes:



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 31, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the revised data validation reports for the fraction listed below. Please replace the previously submitted reports with the enclosed revised reports.

LDC Project # 25435:

SDG #

Fraction

280-14869-1/H1D220445
280-14944-1/H1D230409

Dioxins/Dibenzofurans

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 20, 2011
LDC Report Date: May 31, 2011
Matrix: Water
Parameters: Dioxins/Dibenzofurans
Validation Level: EPA Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14869-1/H1D220445

Sample Identification

HAR-01_042011_01
HAR-03_042011_01
HAR-04_042011_01
HAR-16_042011_01
HAR-16_042011_36

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Routine Calibration (Continuing)

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
1115071-MB	4/25/11	2,3,7,8-TCDF	24 pg/L	All samples in SDG 280-14869-1/H1D220445

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

No field blanks were identified in this SDG.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

Internal standards data were not reviewed for Level V.

X. Target Compound Identifications

Raw data were not reviewed for this SDG.

XI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14869-1/H1D220445	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XII. System Performance

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

***XIV. Field Duplicates**

Samples HAR-16_042011_01 and HAR-16_042011_36 were identified as field duplicates. No polychlorinated dioxins/dibenzofurans were detected in any of the samples.

*Samples HAR-04_042011_01 and HAR-04_042011_03 (from SDG IUD2042) were identified as split samples. No polychlorinated dioxins/dibenzofurans were detected in any of the samples with the following exceptions:

Compound	Concentration (pg/g)		RPD (Limits)	Flag	A or P
	HAR-04_042011_01	HAR-04_042011_03			
1,2,3,4,6,7,8-HpCDD	51U	1.1	192 (≤35)	NQ	-
OCDD	100U	5.9	178 (≤35)	NQ	-
1,2,3,4,6,7,8-HpCDF	51U	1.4	189 (≤35)	NQ	-
OCDF	100U	3.8	185 (≤35)	NQ	-
Total HxCDD	Not reported	0.5	Not calculable	-	-
Total HpCDD	Not reported	2.3	Not calculable	-	-
Total HpCDF	Not reported	2.3	Not calculable	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

*Added split samples

Boeing SSFL GW 2nd Qtr, 2011**Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-14869-1/H1D220445**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14869-1/H1D220445	HAR-01_042011_01 HAR-03_042011_01 HAR-04_042011_01 HAR-16_042011_01 HAR-16_042011_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011**Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-14869-1/H1D220445**

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011**Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-14869-1/H1D220445**

No Sample Data Qualified in this SDG

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/20/11</u>
II.	HRGC/HRMS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Routine calibration/ICV	N	
V.	Blanks	SW	
VI.	Matrix spike/Matrix spike duplicates	N	<u>Client Spec</u>
VII.	Laboratory control samples	A	<u>2 CS 1D</u>
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	N	
X.	Target compound identifications	N	
XI.	Compound quantitation and CRQLs	N	
XII.	System performance	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates / <u>split</u>	<u>SW</u>	<u>b = 4, 5</u> <u>S = 3 + HAR-04_092011-03</u>
XV.	Field blanks	N	<u>(IND 2042)</u>

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

~~ND~~ = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	HAR-01_042011_01	<u>11</u>	<u>1115071-MD</u>	21		31	
2	HAR-03_042011_01	12		22		32	
3	HAR-04_042011_01	13		23		33	
4	HAR-16_042011_01	14		24		34	
5	HAR-16_042011_36	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

VALIDATION FINDINGS WORKSHEET

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

A. 2,3,7,8-TCDD	F. 1,2,3,4,6,7,8-HpCDD	K. 1,2,3,4,7,8-HxCDF	P. 1,2,3,4,7,8,9-HpCDF	U. Total HpCDD
B. 1,2,3,7,8-PeCDD	G. OCDD	L. 1,2,3,6,7,8-HxCDF	Q. OCDF	V. Total TCDF
C. 1,2,3,4,7,8-HxCDD	H. 2,3,7,8-TCDF	M. 2,3,4,6,7,8-HxCDF	R. Total TCDD	W. Total PeCDF
D. 1,2,3,6,7,8-HxCDD	I. 1,2,3,7,8-PeCDF	N. 1,2,3,7,8,9-HxCDF	S. Total PeCDD	X. Total HxCDF
E. 1,2,3,7,8,9-HxCDD	J. 2,3,4,7,8-PeCDF	O. 1,2,3,4,6,7,8-HpCDF	T. Total HxCDD	Y. Total HpCDF

Notes:

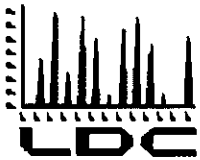
VALIDATION FINDINGS WORKSHEET
Field Splits

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

- Y N NA Were field split pairs identified in this SDG?
- Y N NA Were target analytes detected in the field split pairs?

Compound	Concentration (pg/g)		($\leq 35\%$) RPD	Qualifications (Parent Only)
	HAR-04_042011_01	HAR-04_042011_03		
F	51U	1.1	192	NQ (<math>< 5XRL</math>)
G	100U	5.9	178	NQ (<math>< 5XRL</math>)
O	51U	1.4	189	NQ (<math>< 5XRL</math>)
Q	100U	3.8	185	NQ (<math>< 5XRL</math>)
T	NR	0.5	NC	
U	NR	2.3	NC	
Y	NR	2.3	NC	

NR = Not reported
NC = Not calculable
NQ = Not qualified



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 27, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

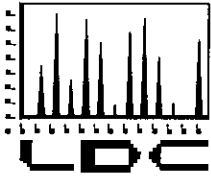
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 10, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25435:

<u>SDG #</u>	<u>Fraction</u>
280-14484-1/ IUD1261/ A1D120533	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Pentachlorophenol, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides,
280-14702-1/ IUD1801/ A1D160428	Wet Chemistry, Diesel Range Organics, 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane, Organophosphorus Pesticides, Hexachloroethane, Formaldehyde, Hydrazine
280-14702-2 280-14817-2	N-Nitrosodimethylamine, Perchlorate
280-14837-1/ H1D210424 280-14869-1/ H1D220445 280-14944-1/ H1D230409	Dioxins/Dibenzofurans
280-14927-2 280-15126-2 280-15184-2	N-Nitrosodimethylamine

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010



- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

Client Select IV LDC #25435 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane 8260B-S		1,2,3-TCP (524.2)		SVOA (8270C)		SVOA (8270C -SIM)		PCP (8270C -LL)		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (8015B)		EDB (504.1)		Formaldehyde (8315)		Hexachlorophene (8321A)		OPHS Pest. (8141A)		Herbs (8151A)			
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S		
Matrix: Water/Soil																																							
A	280-14484-1/ IUD1261/ A1D120533	05/10/11	06/01/11	11	0	10	0	6	0	7	0	2	0	4	0	7	0	4	0	4	0	6	0	5	0	7	0	3	0	6	0	5	0	4	0	4	0	4	0
B	280-14702-1/ IUD1801/ A1D160428	05/10/11	06/01/11	11	0	10	0	7	0	7	0	-	-	4	0	7	0	4	0	4	0	4	0	7	0	7	0	6	0	7	0	7	0	4	0	4	0	4	0
C	280-14702-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	5	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D	280-14817-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G	280-14927-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I	280-15126-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J	280-15184-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total																																							
T/PG				22	0	20	0	13	0	14	0	2	0	8	0	31	0	8	0	10	0	10	0	12	0	14	0	9	0	13	0	12	0	8	0	8	0	8	0

Client Select IV LDC #25435 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydrazine (DVWC)		CLO ₄ (6960)		Dioxins (8290)		Alk. (2320B)		NH ₃ -N (350.1)		Cl SO ₄ (300.0)		NO ₂ O-PO ₄		F NO ₃ (300.0)		CN- (9012A)		Cond. (2510B)		CLO ₄ (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)		S= (4500 -S2 D)			
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
Matrix: Water/Soil																																							
A	280-14484-1	05/10/11	06/01/11	1	0	-	-	-	-	-	-	-	-	2	0	5	0	4	0	2	0	7	0	4	0	2	0	2	0	5	0	5	0	2	0	2	0	4	0
B	280-14702-1	05/10/11	06/01/11	7	0	2	0	2	0	-	-	-	-	6	0	7	0	6	0	-	-	7	0	4	0	6	0	6	0	7	0	7	0	6	0	6	0	4	0
C	280-14702-2	05/10/11	06/01/11	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D	280-14817-2	05/10/11	06/01/11	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E	280-14837-1/ H1D210424	05/10/11	06/01/11	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
F	280-14869-1/ H1D220445	05/10/11	06/01/11	-	-	-	-	-	-	-	-	5	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	280-14944-1/ H1D230409	05/10/11	06/01/11	-	-	-	-	-	-	-	-	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total																																							
T/PG				8	0	2	0	2	0	3	0	11	0	8	0	12	0	10	0	2	0	14	0	8	0	8	0	8	0	12	0	12	0	8	0	8	0	8	0

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 21, 2011

LDC Report Date: May 19, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14927-2

Sample Identification

PZ-154_042111_36
FB_PZ-154_042111_19
RD-01_042111_36
FB_RD-01_042111_19

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-nitrosodimethylamine was found in the method blanks.

Sample EB_PZ-154_042111 (from SDG 280-14927-1) was identified as an equipment blank. No N-nitrosodimethylamine was found in this blank.

Samples FB_PZ-154_042111_19, FB_RD-01_042111_19, and FB_041411_19 (from SDG 280-14655-1) were identified as field blanks. No N-nitrosodimethylamine was found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14927-2	All compounds reported below the RL	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples PZ-154_042111_36 and PZ-154_042111_01 (from SDG 280-14927-1) and samples RD-01_042111_36 and RD-01_042111_01 (from SDG 280-14927-1) were identified as field duplicates. No N-nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	PZ-154_042111_01	PZ-154_042111_36			
N-nitrosodimethylamine	0.016	0.018	12 (≤35)	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	RD-01_042111_01	RD-01_042111_36			
N-nitrosodimethylamine	0.0077	0.0061	23 (≤35)	-	-

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-14927-2**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14927-2	PZ-154_042111_36 FB_PZ-154_042111_19 RD-01_042111_36 FB_RD-01_042111_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary – SDG 280-14927-2**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-14927-2**

No Sample Data Qualified in this SDG

LDC #: 25435G2b
 SDG #: 280-14927-2
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/16/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/21/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS 1b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	$D_1 = 1 + PZ-154-042111-01 > 280-14927-1$ $D_2 = 3 + RD-01-042111-01$
XVII.	Field blanks	MD	FB = 2, 4 FB-041411-19 (280-14655-1) $EB = EB-PZ-154-042111$; $FB = P(280-14927-1)$

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinstate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	PZ-154_042111_36	11	MB 280-63985/1-A	21	31
2	FB PZ-154_042111_19	12		22	32
3	RD-01_042111_36	13		23	33
4	FB RD-01_042111_19	14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

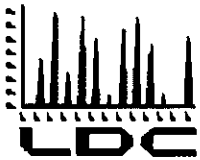
VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GCMS NDMA (EPA Method 1625M)

Y ~~N~~ ~~NA~~ Were field duplicate pairs identified in this SDG?
~~Y~~ ~~N~~ ~~NA~~ Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent Only)
	PZ-154_042111_01	PZ-154_042111_36		
NDMA	0.016	0.018	12	

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent Only)
	RD-01_042111_01	RD-01_042111_36		
NDMA	0.0077	0.0061	23	



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 27, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

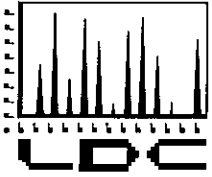
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 10, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25435:

<u>SDG #</u>	<u>Fraction</u>
280-14484-1/ IUD1261/ A1D120533 280-14702-1/ IUD1801/ A1D160428	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Pentachlorophenol, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane, Organophosphorus Pesticides, Hexachloroethane, Formaldehyde, Hydrazine
280-14702-2 280-14817-2	N-Nitrosodimethylamine, Perchlorate
280-14837-1/ H1D210424 280-14869-1/ H1D220445 280-14944-1/ H1D230409	Dioxins/Dibenzofurans
280-14927-2 280-15126-2 280-15184-2	N-Nitrosodimethylamine

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010



- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

Client Select IV LDC #25435 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane (8260B-S)		1,2,3-TCP (524.2)		SVOA (8270C)		SVOA (8270C-SIM)		PCP (8270C-LL)		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (8015B)		EDB (504.1)		Formaldehyde (8315)		Hexachlorophene (8321A)		OPHS Pest. (8141A)		Herbs (8151A)			
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S		
Matrix: Water/Soil																																							
A	280-14484-1/ IUD1261/ A1D120533	05/10/11	06/01/11	11	0	10	0	6	0	7	0	2	0	4	0	7	0	4	0	4	0	6	0	5	0	7	0	3	0	6	0	5	0	4	0	4	0	4	0
B	280-14702-1/ IUD1801/ A1D160428	05/10/11	06/01/11	11	0	10	0	7	0	7	0	-	4	0	7	0	4	0	4	0	4	0	7	0	7	0	6	0	7	0	7	0	4	0	4	0	4	0	
C	280-14702-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	-	5	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
D	280-14817-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	-	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
G	280-14927-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	-	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
I	280-15126-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
J	280-15184-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total																																							
T/PG				22	0	20	0	13	0	14	0	2	0	8	0	31	0	8	0	10	0	10	0	12	0	14	0	9	0	13	0	12	0	8	0	8	0	8	212

Client Select IV LDC #25435 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydrazine (DVWC)		CLO ₄ (6960)		Dioxins (8290)		Alk. (2320B)		NH ₃ -N (350.1)		Cl SO ₄ (300.0)		NO ₂ O-PO ₄		F NO ₃ (300.0)		CN- (9012A)		Cond. (2510B)		CLO ₂ (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)		S= (4500 -S2 D)				
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	
Matrix: Water/Soil																																								
A	280-14484-1	05/10/11	06/01/11	1	0	-	-	-	-	-	-	-	-	2	0	5	0	4	0	2	0	2	0	7	0	4	0	2	0	5	0	5	0	2	0	2	0	4	0	
B	280-14702-1	05/10/11	06/01/11	7	0	2	0	2	0	-	-	-	-	6	0	7	0	6	0	-	-	-	7	0	4	0	6	0	7	0	7	0	6	0	6	0	6	0	4	0
C	280-14702-2	05/10/11	06/01/11	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
D	280-14817-2	05/10/11	06/01/11	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
E	280-14837-1/ H1D210424	05/10/11	06/01/11	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
F	280-14869-1/ H1D220445	05/10/11	06/01/11	-	-	-	-	-	-	-	-	5	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
H	280-14944-1/ H1D230409	05/10/11	06/01/11	-	-	-	-	-	-	-	-	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total																																								
T/PG				8	0	2	0	2	0	3	0	11	0	8	0	12	0	10	0	2	0	2	0	14	0	8	0	8	0	12	0	12	0	8	0	8	0	8	136	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 21, 2011

LDC Report Date: May 20, 2011

Matrix: Water

Parameters: Dioxins/Dibenzofurans

Validation Level: EPA Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14944-1/H1D230409

Sample Identification

PZ-154_042111_01
EB_PZ-154_042111
PZ-140_042111_01
EB_PZ-140_042111

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Routine Calibration (Continuing)

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
1115071-MB	4/25/11	2,3,7,8-TCDF	24 pg/L	All samples in SDG 280-14944-1/H1D230409

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

Samples EB_PZ-154_042111 and EB_PZ-140_042111 were identified as equipment blanks. No polychlorinated dioxin/dibenzofuran contaminants were found in these blanks.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

Internal standards data were not reviewed for Level V.

X. Target Compound Identifications

Raw data were not reviewed for this SDG.

XI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14944-1/H1D230409	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XII. System Performance

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-14944-1/H1D230409**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14944-1/H1D230409	PZ-154_042111_01 EB_PZ-154_042111 PZ-140_042111_01 EB_PZ-140_042111	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-14944-1/H1D230409**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-14944-1/H1D230409**

No Sample Data Qualified in this SDG

LDC #: 25435H21 **VALIDATION COMPLETENESS WORKSHEET**

SDG #: 280-14944-1/H1D230409

Level V

Laboratory: Test America Inc.

Date: 5/16/11

Page: 1 of 1

Reviewer: [Signature]

2nd Reviewer: [Signature]

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/21/11
II.	HRGC/HRMS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Routine calibration/ICV	N	
V.	Blanks	SW	
VI.	Matrix spike/Matrix spike duplicates	N	Client: Spec
VII.	Laboratory control samples	A	ICS 10
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	N	
X.	Target compound identifications	N	
XI.	Compound quantitation and CRQLs	N	
XII.	System performance	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	ND	EB = 2, 4

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	PZ-154_042111_01	11	1115071-MB	21		31	
2	EB_PZ-154_042111	12		22		32	
3	PZ-140_042111_01	13		23		33	
4	EB_PZ-140_042111	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

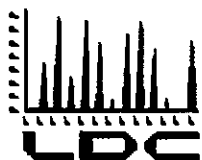
Notes: _____

VALIDATION FINDINGS WORKSHEET

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

A. 2,3,7,8-TCDD	F. 1,2,3,4,6,7,8-HpCDD	K. 1,2,3,4,7,8-HxCDF	P. 1,2,3,4,7,8,9-HpCDF	U. Total HpCDD
B. 1,2,3,7,8-PeCDD	G. OCDD	L. 1,2,3,6,7,8-HxCDF	Q. OCDF	V. Total TCDF
C. 1,2,3,4,7,8-HxCDD	H. 2,3,7,8-TCDF	M. 2,3,4,6,7,8-HxCDF	R. Total TCDD	W. Total PeCDF
D. 1,2,3,6,7,8-HxCDD	I. 1,2,3,7,8-PeCDF	N. 1,2,3,7,8,9-HxCDF	S. Total PeCDD	X. Total HxCDF
E. 1,2,3,7,8,9-HxCDD	J. 2,3,4,7,8-PeCDF	O. 1,2,3,4,6,7,8-HpCDF	T. Total HxCDD	Y. Total HpCDF

Notes:



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 31, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the revised data validation reports for the fraction listed below. Please replace the previously submitted reports with the enclosed revised reports.

LDC Project # 25435:

SDG #

Fraction

280-14869-1/H1D220445
280-14944-1/H1D230409

Dioxins/Dibenzofurans

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 21, 2011
LDC Report Date: May 31, 2011
Matrix: Water
Parameters: Dioxins/Dibenzofurans
Validation Level: EPA Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14944-1/H1D230409

Sample Identification

PZ-154_042111_01
EB_PZ-154_042111
PZ-140_042111_01
EB_PZ-140_042111

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Routine Calibration (Continuing)

Calibration verification data were not reviewed for Level V.

*V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
1115071-MB	4/25/11	2,3,7,8-TCDF	24 pg/L	All samples in SDG 280-14944-1/H1D230409

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

Samples EB_PZ-154_042111 and EB_PZ-140_042111 were identified as equipment blanks. No polychlorinated dioxin/dibenzofuran contaminants were found in these blanks.

Sample FB_041411_19 (from SDG 280-14659-1) was identified as a field blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank.

*Added Field blank identification.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

Internal standards data were not reviewed for Level V.

X. Target Compound Identifications

Raw data were not reviewed for this SDG.

XI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14944-1/H1D230409	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XII. System Performance

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

***XIV. Field Duplicates**

No field duplicates were identified in this SDG.

*Samples PZ-140_042111_01 and PZ-140_042111_03 (from SDG IUD2221) were identified as split samples. No polychlorinated dioxins/dibenzofurans were detected in any of the samples with the following exceptions:

Compound	Concentration (pg/g)		RPD (Limits)	Flag	A or P
	PZ-140_042111_01	PZ-140_042111_03			
1,2,3,4,6,7,8-HpCDD	50U	1.9	185 (≤35)	NQ	-
OCDD	100U	4.4	183 (≤35)	NQ	-
1,2,3,4,6,7,8-HpCDF	50U	1.4	189 (≤35)	NQ	-
OCDF	100U	2.7	189 (≤35)	NQ	-
Total HxCDD	Not reported	1.1	Not calculable	-	-
Total HpCDD	Not reported	3.1	Not calculable	-	-
Total PeCDF	Not reported	0.44	Not calculable	-	-
Total HxCDF	Not reported	0.75	Not calculable	-	-
Total HpCDF	Not reported	1.4	Not calculable	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

*Added split samples

Boeing SSFL GW 2nd Qtr, 2011**Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-14944-1/H1D230409**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14944-1/H1D230409	PZ-154_042111_01 EB_PZ-154_042111 PZ-140_042111_01 EB_PZ-140_042111	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011**Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-14944-1/H1D230409**

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011**Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-14944-1/H1D230409**

No Sample Data Qualified in this SDG

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/21/11
II.	HRGC/HRMS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Routine calibration/ICV	N	
V.	Blanks	SW	
VI.	Matrix spike/Matrix spike duplicates	N	Client: Spec
VII.	Laboratory control samples	A	LCS 10
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	N	
X.	Target compound identifications	N	
XI.	Compound quantitation and CRQLs	N	
XII.	System performance	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates / Split	SW	S = 3 + PZ-140-04211L03 (14D2221)
XV.	Field blanks	ND	EB = 2, 4 FB = FB_041411L19 (280-14659-1)

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: WATER

1	PZ-154_042111_01	11	11/5071-MB	21		31
2	EB_PZ-154_042111	12		22		32
3	PZ-140_042111_01	13		23		33
4	EB_PZ-140_042111	14		24		34
5		15		25		35
6		16		26		36
7		17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

Notes: _____

VALIDATION FINDINGS WORKSHEET

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

A. 2,3,7,8-TCDD	F. 1,2,3,4,6,7,8-HpCDD	K. 1,2,3,4,7,8-HxCDF	P. 1,2,3,4,7,8,9-HpCDF	U. Total HpCDD
B. 1,2,3,7,8-PeCDD	G. OCDD	L. 1,2,3,6,7,8-HxCDF	Q. OCDF	V. Total TCDF
C. 1,2,3,4,7,8-HxCDD	H. 2,3,7,8-TCDF	M. 2,3,4,6,7,8-HxCDF	R. Total TCDD	W. Total PeCDF
D. 1,2,3,6,7,8-HxCDD	I. 1,2,3,7,8-PeCDF	N. 1,2,3,7,8,9-HxCDF	S. Total PeCDD	X. Total HxCDF
E. 1,2,3,7,8,9-HxCDD	J. 2,3,4,7,8-PeCDF	O. 1,2,3,4,6,7,8-HpCDF	T. Total HxCDD	Y. Total HpCDF

Notes:

VALIDATION FINDINGS WORKSHEET
Field Splits

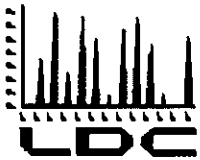
METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

Y N NA Were field split pairs identified in this SDG?

Y N NA Were target analytes detected in the field split pairs?

Compound	Concentration (pg/g)		(<35%) RPD	Qualifications (Parent Only)
	PZ-140_042111_01	PZ-140_042111_03		
F	50U	1.9	185	NQ (<5XRL)
G	100U	4.4	183	NQ (<5XRL)
O	50U	1.4	189	NQ (<5XRL)
Q	100U	2.7	189	NQ (<5XRL)
T	NR	1.1	NC	
U	NR	3.1	NC	
W	NR	0.44	NC	
X	NR	0.75	NC	
Y	NR	1.4	NC	

NR = Not reported
 NC = Not calculable
 NQ = Not qualified



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 27, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

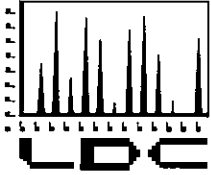
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 10, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25435:

<u>SDG #</u>	<u>Fraction</u>
280-14484-1/ IUD1261/ A1D120533 280-14702-1/ IUD1801/ A1D160428	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Pentachlorophenol, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane, Organophosphorus Pesticides, Hexachloroethane, Formaldehyde, Hydrazine
280-14702-2 280-14817-2	N-Nitrosodimethylamine, Perchlorate
280-14837-1/ H1D210424 280-14869-1/ H1D220445 280-14944-1/ H1D230409	Dioxins/Dibenzofurans
280-14927-2 280-15126-2 280-15184-2	N-Nitrosodimethylamine

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010



- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

LDC #25435 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane (8260B-S)		1,2,3-TCP (524.2)		SVOA (8270C)		SVOA (8270C-SIM)		PCP (8270C-LL)		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (8015B)		EDB (504.1)		Formaldehyde (8315)		Hexachlorophene (8321A)		OPHS Pest. (8141A)		Herbs (8151A)																																									
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S																																								
Matrix: Water/Soil																																																																													
A	280-14484-1/ IUD1261/ A1D120533	05/10/11	06/01/11	11	0	10	0	6	0	7	0	2	0	4	0	7	0	4	0	4	0	6	0	5	0	7	0	3	0	6	0	5	0	4	0	4	0	4	0																																						
B	280-14702-1/ IUD1801/ A1D160428	05/10/11	06/01/11	11	0	10	0	7	0	7	0	-	4	0	7	0	4	0	4	0	4	0	7	0	7	0	6	0	7	0	7	0	4	0	4	0	4	0																																							
C	280-14702-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	5	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																																							
D	280-14817-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																																							
G	280-14927-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																																							
I	280-15126-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																																							
J	280-15184-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																																							
Total				22		0		20		0		13		0		14		0		2		0		8		0		8		0		31		0		8		0		10		0		12		0		14		0		9		0		13		0		12		0		8		0		8		0		8		0		212	

LDC #25435 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydrazine (DVWC)		CLO ₄ (6860)		Dioxins (8290)		Alk. (2320B)		NH ₃ -N (350.1)		Cl SO ₄ (300.0)		NO ₂ O-PO ₄		F NO ₃ (300.0)		CN- (9012A)		Cond. (2570B)		CLO ₄ (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)		S= (4500 -S2 D)															
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S												
Matrix: Water/Soil																																																			
A	280-14484-1	05/10/11	06/01/11	1	0	-	-	-	-	-	-	-	-	2	0	5	0	4	0	2	0	2	0	7	0	4	0	2	0	5	0	5	0	2	0	2	0	4	0												
B	280-14702-1	05/10/11	06/01/11	7	0	2	0	2	0	-	-	-	6	0	7	0	6	0	-	-	-	-	7	0	4	0	6	0	7	0	7	0	6	0	6	0	6	0	4	0											
C	280-14702-2	05/10/11	06/01/11	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
D	280-14817-2	05/10/11	06/01/11	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
E	280-14837-1/ H1D210424	05/10/11	06/01/11	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
F	280-14869-1/ H1D220445	05/10/11	06/01/11	-	-	-	-	-	-	-	-	5	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
H	280-14944-1/ H1D230409	05/10/11	06/01/11	-	-	-	-	-	-	-	-	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
Total				8		0		2		0		11		0		8		0		2		0		14		0		8		0		12		0		10		0		14		0		8		0		8		136	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 27, 2011

LDC Report Date: May 19, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15126-2

Sample Identification

RS-34_042711_36

FB_RS-34_042711_19

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-nitrosodimethylamine was found in the method blanks.

Sample FB_RS-34_042711_19 was identified as a field blank. No N-nitrosodimethylamine was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15126-2	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RS-34_042711_36 and RS-34_042711_01 (from SDG 280-15126-1) were identified as field duplicates. No N-nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	RS-34_042711_01	RS-34_042711_36			
N-nitrosodimethylamine	0.0080	0.0077	4 (≤35)	-	-

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-15126-2**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15126-2	RS-34_042711_36 FB_RS-34_042711_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary – SDG 280-15126-2**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-15126-2**

No Sample Data Qualified in this SDG

LDC #: 2543512b

VALIDATION COMPLETENESS WORKSHEET

Date: 5/16/11

SDG #: 280-15126-2

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JVL

2nd Reviewer:

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/27/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	ICS 10
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D = 1 + RS-34_042711_01 (280-15126-1)
XVII.	Field blanks	MD	FB = 2

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinstate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

W/Notes

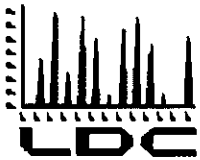
1 ⁺	RS-34_042711_36	11	MB 280-65225/A	21		31	
2	FB_RS-34_042711_19	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GCMS NDMA (EPA Method 1625M)

Y/N NA Were field duplicate pairs identified in this SDG?
Y/N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		RPD	Qualifications (Parent Only)
	RS-34_042711_01	RS-34_042711_36		
NDMA	0.0080	0.0077	4	



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

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Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 27, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

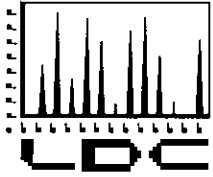
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LDC Project # 25435:

<u>SDG #</u>	<u>Fraction</u>
280-14484-1/ IUD1261/ A1D120533 280-14702-1/ IUD1801/ A1D160428	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Pentachlorophenol, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane, Organophosphorus Pesticides, Hexachloroethane, Formaldehyde, Hydrazine
280-14702-2 280-14817-2	N-Nitrosodimethylamine, Perchlorate
280-14837-1/ H1D210424 280-14869-1/ H1D220445 280-14944-1/ H1D230409	Dioxins/Dibenzofurans
280-14927-2 280-15126-2 280-15184-2	N-Nitrosodimethylamine

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

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- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010



- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

Client Select IV LDC #25435 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane (8260B-S)		1,2,3-TCP (524.2)		SVOA (8270C)		SVOA (8270C-SIM)		PCP (8270C-LL)		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (8015B)		EDB (504.1)		Formaldehyde (8315)		Hexachlorophene (8321A)		OPHS Pest. (8141A)		Herbs (8151A)			
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S		
Matrix: Water/Soil																																							
A	280-14484-1/ IUD1261/ A1D120533	05/10/11	06/01/11	11	0	10	0	6	0	7	0	2	0	4	0	7	0	4	0	4	0	6	0	5	0	7	0	3	0	6	0	5	0	4	0	4	0	4	0
B	280-14702-1/ IUD1801/ A1D160428	05/10/11	06/01/11	11	0	10	0	7	0	7	0	-	4	0	7	0	4	0	4	0	4	0	7	0	7	0	6	0	7	0	7	0	4	0	4	0	4	0	
C	280-14702-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	-	-	5	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
D	280-14817-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	-	-	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
G	280-14927-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	-	-	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
I	280-15126-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
J	280-15184-2	05/10/11	06/01/11	-	-	-	-	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total																																							
T/PG				22	0	20	0	13	0	14	0	2	0	8	0	31	0	8	0	10	0	10	0	12	0	14	0	9	0	13	0	12	0	8	0	8	0	8	0

Client Select IV LDC #25435 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydrazine (DVWC)		CLO ₄ (6860)		Dioxins (8290)		Alk. (2320B)		NH ₃ -N (350.1)		Cl SO ₄ (300.0)		NO ₂ O-PO ₄		F NO ₃ (300.0)		CN- (9012A)		Cond. (2510B)		CLO ₄ (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)		S= (4500 -S2 D)			
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
Matrix: Water/Soil																																							
A	280-14484-1	05/10/11	06/01/11	1	0	-	-	-	-	-	-	-	-	2	0	5	0	4	0	2	0	2	0	7	0	4	0	2	0	5	0	5	0	2	0	2	0	4	0
B	280-14702-1	05/10/11	06/01/11	7	0	2	0	2	0	-	-	-	-	6	0	7	0	6	0	-	-	-	7	0	4	0	6	0	7	0	7	0	6	0	6	0	4	0	
C	280-14702-2	05/10/11	06/01/11	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D	280-14817-2	05/10/11	06/01/11	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E	280-14837-1/ H1D210424	05/10/11	06/01/11	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
F	280-14869-1/ H1D220445	05/10/11	06/01/11	-	-	-	-	-	-	-	-	5	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	280-14944-1/ H1D230409	05/10/11	06/01/11	-	-	-	-	-	-	-	-	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total																																							
T/PG				8	0	2	0	2	0	3	0	11	0	8	0	12	0	10	0	2	0	2	0	14	0	8	0	8	0	12	0	12	0	8	0	8	0	8	0

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 28, 2011

LDC Report Date: May 19, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15184-2

Sample Identification

HAR-30_042811_36

FB_HAR-30_042811_19

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-nitrosodimethylamine was found in the method blanks.

Sample FB_HAR-30_042811_19 was identified as a field blank. No N-nitrosodimethylamine was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15184-2	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-30_042811_36 and HAR-30_042811_01 (from SDG 280-15184-1) were identified as field duplicates. No N-nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-30_042811_01	HAR-30_042811_36			
N-nitrosodimethylamine	0.010	0.0050U	67 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 2nd Qtr, 2011

N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-15184-2

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15184-2	HAR-30_042811_36 FB_HAR-30_042811_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011

N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary – SDG 280-15184-2

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011

N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-15184-2

No Sample Data Qualified in this SDG

LDC #: 25435J2b
 SDG #: 280-15184-2
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/6/11
 Page: 1 of 1
 Reviewer: SVG
 2nd Reviewer: _____

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4 / 28 / 11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS ID
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D = 1 + HAR-30-042811-01 (280-15184-1)
XVII.	Field blanks	ND	FB = 2

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

water

1	HAR-30_042811_36	11	MB 280-65225 / A	21		31	
2	FB HAR-30_042811_19	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

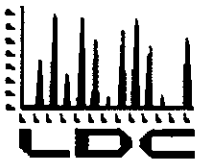
1 = 0.00574

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GCMS NDMA (EPA Method 1625M)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent Only)
	HAR-30_042811_01	HAR-30_042811_36		
NDMA	0.010	0.0050U	67	NQ (<5xRL)



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

June 9, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

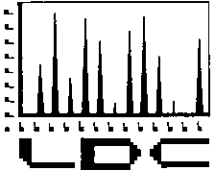
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 12, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25468:

<u>SDG #</u>	<u>Fraction</u>
280-14817//IUD2255/ A1D200567, 280-14865-1//IUD2257/ A1D210577, 280-14927-1//IUD2311/ A1D220525	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Pentachlorophenol, N- Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, 1,2- Dibromoethane & 1,2-Dibromo-3-chloropropane, Organophosphorus Pesticides, Hexachloroethane, Formaldehyde, Hydrazine
280-14865-2	N-Nitrosodimethylamine, Perchlorate
280-15011-2	N-Nitrosodimethylamine

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004



- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV LDC #25468 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane 8260B-S		1,2,3-TCP (524.2)		SVOA (8270C)		SVOA (8270C) -SIM		PCP (8270C -LL)		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (OK-DEQ)		EDB (504.1)		Formaldehyde (8315)		Hexachloro rophene (8321A)		OPHS Pest. (8141A)		Herbs (8151A)	
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-14817/ IUD2255/ A1D200567	05/12/11	06/03/11	6	0	6	0	3	0	4	0	-	-	2	0	4	0	2	0	2	0	2	0	3	0	4	0	3	0	4	0	2	0	2	0	2	0
B	280-14865-1/ IUD2257/ A1D210577	05/12/11	06/03/11	11	0	11	0	9	0	7	0	-	-	5	0	9	0	5	0	5	0	5	0	5	0	7	0	6	0	8	0	5	0	5	0	5	0
C	280-14865-2	05/12/11	06/03/11	-	-	-	-	-	-	-	-	-	-	-	-	3	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D	280-14927-1/ IUD2311/ A1D220525	05/12/11	06/03/11	11	0	11	0	3	0	8	0	2	0	-	-	8	0	-	-	4	0	-	-	4	0	9	0	-	-	6	0	-	-	-	-	-	-
E	280-15011-2	05/12/11	06/03/11	-	-	-	-	-	-	-	-	-	-	-	-	6	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total	T/PG			28	0	28	0	15	0	19	0	2	0	7	0	30	0	7	0	11	0	8	0	12	0	20	0	9	0	18	0	7	0	7	0	7	0

Client Select IV LDC #25468 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydra-zine (DVWC)		CLO ₄ (6860)		Alk. (2320B)		NH ₃ -N (350.1)		Cl SO ₄ (300.0)		Br NO ₂ O-PO ₄		F NO ₃ (300.0)		CN- (9012A)		Cond. (2510B)		Cr(VI) & Diss. Cr(VI)		CLO ₄ (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)		S= (4500 -S2 D)	
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-14817-1	05/12/11	06/03/11	4	0	2	0	2	0	-	-	2	0	4	0	2	0	-	-	4	0	2	0	2	0	-	-	4	0	4	0	2	0	2	0	2	0
B	280-14865-1	05/12/11	06/03/11	9	0	8	0	8	0	-	-	2	0	9	0	2	0	-	-	9	0	5	0	2	0	-	-	9	0	9	0	2	0	2	0	2	0
C	280-14865-2	05/12/11	06/03/11	-	-	-	-	-	-	5	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D	280-14927-1	05/12/11	06/03/11	5	0	5	0	7	0	-	-	-	-	4	0	2	0	2	0	6	0	-	-	-	-	2	0	4	0	4	0	-	-	-	-	-	
Total	T/PG			18	0	15	0	17	0	5	0	4	0	17	0	6	0	2	0	19	0	7	0	4	0	2	0	17	0	17	0	4	0	4	0	7	0

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 19, 2011

LDC Report Date: May 25, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14817-1

Sample Identification

HAR-29_041911_01
TB_HAR-29_041911
HAR-08_041911_01
HAR-13_041911_01
TB_HAR-13_041911
HAR-23_041911_01
HAR-08_041911_01MS
HAR-08_041911_01MSD

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Samples TB_HAR-29_041911 and TB_HAR-13_041911 were identified as trip blanks. No volatile contaminants were found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
HAR-08_041911_01	Toluene-d8	116 (88-110)	All TCL compounds except Acrolein Acrylonitrile	J (all detects)	A
HAR-13_041911_01	Toluene-d8	112 (88-110)	All TCL compounds	J (all detects)	P
TB_HAR-13_041911	Toluene-d8	111 (88-110)	All TCL compounds	J (all detects)	P
HAR-23_041911_01	Toluene-d8	111 (88-110)	All TCL compounds	J (all detects)	P

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14817-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-14817-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14817-1	HAR-08_041911_01	All TCL compounds except Acrolein Acrylonitrile	J (all detects)	A	Surrogate spikes (%R) (S)
280-14817-1	HAR-13_041911_01 TB_HAR-13_041911 HAR-23_041911_01	All TCL compounds	J (all detects)	P	Surrogate spikes (%R) (S)
280-14817-1	HAR-29_041911_01 TB_HAR-29_041911 HAR-08_041911_01 HAR-13_041911_01 TB_HAR-13_041911 HAR-23_041911_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-14817-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-14817-1**

No Sample Data Qualified in this SDG

LDC #: 25468A1a

VALIDATION COMPLETENESS WORKSHEET

SDG #: 280-14817-1

Level V

Laboratory: Test America, Inc.

Date: 5/23/11

Page: 1 of 1

Reviewer: JLG

2nd Reviewer: [Signature]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/19/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	UCS 10
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 2 5

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	HAR-29_041911_01	11	MB 280-63269/4	21	(FFFF, 6666)	31
2	TB_HAR-29_041911	12	MB 280-64379/7	22		32
3	HAR-08_041911_01	13		23		33
4	HAR-13_041911_01	14		24		34
5	TB_HAR-13_041911	15		25		35
6	HAR-23_041911_01	16		26		36
7	HAR-08_041911_01MS	17		27		37
8	HAR-08_041911_01MSD	18		28		38
9		19		29		39
10		20		30		40

APPX A,A = 1-3
VOCs IPA = 4-6

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC. 1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl chloride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropane	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethane	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethane**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethane	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethane	KKKK. Propionitrile
J. 1,2-Dichloroethane, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QOOQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropane	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethane	MM. 1,2-Dibromo-3-chloropropane	GGG. p-isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 19, 2011

LDC Report Date: May 24, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14817-1

Sample Identification

HAR-29_041911_01
TB_HAR-29_041911
HAR-08_041911_01
HAR-13_041911_01
TB_HAR-13_041911
HAR-23_041911_01

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-dioxane was found in the method blanks.

Samples TB_HAR-29_041911 and TB_HAR-13_041911 were identified as trip blanks. No 1,4-dioxane was found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG280-14817-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-14817-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14817-1	HAR-29_041911_01 TB_HAR-29_041911 HAR-08_041911_01 HAR-13_041911_01 TB_HAR-13_041911 HAR-23_041911_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-14817-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-14817-1**

No Sample Data Qualified in this SDG

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/19/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS 10
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 2, 5

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

WATER

1	HAR-29_041911_01	11	MB 280-69857 / V	21		31	
2	TB HAR-29_041911	12		22		32	
3	HAR-08_041911_01	13		23		33	
4	HAR-13_041911_01	14		24		34	
5	TB HAR-13_041911	15		25		35	
6	HAR-23_041911_01	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 19, 2011

LDC Report Date: May 24, 2011

Matrix: Water

Parameters: 1,2,3-Trichloropropane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14817-1/IUD2255

Sample Identification

HAR-29_041911_01
TB_HAR-29_041911
HAR-08_041911_01
HAR-29_041911_01DUP

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-trichloropropane was found in the method blanks.

Sample TB_HAR-29_041911 was identified as a trip blank. No 1,2,3-trichloropropane was found in this blank.

VI. Surrogate Spikes

Surrogate spikes were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Raw data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14817-1/IUD2255	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011

1,2,3-Trichloropropane - Data Qualification Summary - SDG 280-14817-1/IUD2255

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14817-1/IUD2255	HAR-29_041911_01 TB_HAR-29_041911 HAR-08_041911_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011

1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG 280-14817-1/IUD2255

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011

1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG 280-14817-1/IUD2255

No Sample Data Qualified in this SDG

METHOD: GC/MS 1,2,3-Trichloropropane (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/19/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates / Lab Dup	N/A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 2

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: Water

1	HAR-29_041911_01	11	11D3087 - Blk1	21	31
2	TB_HAR-29_041911	12		22	32
3	HAR-08_041911_01	13		23	33
4	HAR-29_041911_01DUP	14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 19, 2011

LDC Report Date: May 24, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14817-1

Sample Identification

HAR-29_041911_01

HAR-08_041911_01

HAR-13_041911_01

HAR-23_041911_01

Introduction

This data review covers 4 water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/LCSD 280-63231/2,3-A (HAR-29_041911_01 HAR-08_041911_01 MB 280-63231/1-A)	Hexachlorocyclopentadiene	-	-	82 (≤72)	J (all detects) UJ (all non-detects)	P

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14817-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-14817-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14817-1	HAR-29_041911_01 HAR-08_041911_01	Hexachlorocyclopentadiene	J (all detects) UJ (all non-detects)	P	Laboratory control samples (RPD) (E)
280-14817-1	HAR-29_041911_01 HAR-08_041911_01 HAR-13_041911_01 HAR-23_041911_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-14817-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-14817-1**

No Sample Data Qualified in this SDG

LDC #: 25468A2a

VALIDATION COMPLETENESS WORKSHEET

Date: 5/23/11

SDG #: 280-14817-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JG

2nd Reviewer: C

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/19/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	SW	LCS 1p
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	HAR-29_041911_01	11	MB 280-63231/LA	21	31
2	HAR-08_041911_01	12		22	32
3	HAR-13_041911_01	13		23	33
4	HAR-23_041911_01	14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

APPX = 1, 2
NB = 3, 4

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(e)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(e)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU.
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes: * = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 19, 2011

LDC Report Date: May 24, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14817-1

Sample Identification

HAR-29_041911_01
HAR-08_041911_01
HAR-13_041911_01
HAR-23_041911_01

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-nitrosodimethylamine was found in the method blanks.

Samples FB_HAR-08_041911_19 and FB_HAR-23_041911_19 were identified as field blanks. No N-nitrosodimethylamine was found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14817-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-08_041911_01 and HAR-08_041911_36 (from SDG 280-14817-2) and samples HAR-23_041911_01 and HAR-23_041911_36 (from SDG 280-14817-2) were identified as field duplicates. No N-nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-08_041911_01	HAR-08_041911_36			
N-Nitrosodimethylamine	0.019	0.017	11 (≤ 35)	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-23_041911_01	HAR-23_041911_36			
N-Nitrosodimethylamine	0.026	0.025	4 (≤35)	-	-

Boeing SSFL GW 2nd Qtr, 2011

N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-14817-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14817-1	HAR-29_041911_01 HAR-08_041911_01 HAR-13_041911_01 HAR-23_041911_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011

N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary – SDG 280-14817-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011

N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-14817-1

No Sample Data Qualified in this SDG

LDC #: 25468A2b
 SDG #: 280-14817-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/23/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/19/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS 10
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D ₁ = 2 + HAR-08-041911-36 D ₂ = 4 + HAR-23-041911-36 > from 280-14817-2
XVII.	Field blanks	ND	FB = FB_HAR-08-041911-19 FB_HAR-23-041911-19

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	HAR-29_041911_01	11	MB 280-63758/1-A	21	31
2	HAR-08_041911_01 D ₁	12		22	32
3	HAR-13_041911_01 D₁	13		23	33
4	HAR-23_041911_01 D ₂	14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 19, 2011

LDC Report Date: May 24, 2011

Matrix: Water

Parameters: Pentachlorophenol

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14817-1

Sample Identification

HAR-29_041911_01

HAR-08_041911_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Pentachlorophenol.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No pentachlorophenol was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14817-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Data Qualification Summary - SDG 280-14817-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14817-1	HAR-29_041911_01 HAR-08_041911_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Laboratory Blank Data Qualification Summary - SDG 280-14817-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Field Blank Data Qualification Summary - SDG 280-14817-1**

No Sample Data Qualified in this SDG

METHOD: GC/MS Pentachlorophenol (EPA SW846 Method 8270C-~~2~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/19/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	ICS 10
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: Water

1	HAR-29_041911_01	11	MB 280-63239/-A	21	31
2	HAR-08_041911_01	12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 19, 2011

LDC Report Date: May 24, 2011

Matrix: Water

Parameters: Chlorinated Pesticides

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14817-1

Sample Identification

HAR-29_041911_01

HAR-08_041911_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticides were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Column	Surrogate	%R (Limits)	Compound	Flag	A or P
MB 280-63228/1-A	1	Tetrachloro-m-xylene	56 (60-140)	All TCL compounds	J (all detects)	P
	2	Tetrachloro-m-xylene	56 (60-140)		UJ (all non-detects)	

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

Raw data were not reviewed for this SDG.

XIII. Compound Quantitation and Reported CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14817-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Data Qualification Summary - SDG 280-14817-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14817-1	HAR-29_041911_01 HAR-08_041911_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 280-14817-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Field Blank Data Qualification Summary - SDG 280-14817-1**

No Sample Data Qualified in this SDG

LDC #: 25468A3a
 SDG #: 280-14817-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/23/11
 Page: 1 of 1
 Reviewer: *NG*
 2nd Reviewer: *C*

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/19/11
II.	GC/ECD Instrument Performance Check	H	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS /p
IX.	Regional quality assurance and quality control	N	
X.	Florisil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation and reported CRQLs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates	N	
XVI.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: *water*

1	HAR-29_041911_01	11	MD 280-63228 /-A	21	31
2	HAR-08_041911_01	12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 19, 2011

LDC Report Date: May 24, 2011

Matrix: Water

Parameters: Polychlorinated Biphenyls

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14817-1

Sample Identification

HAR-29_041911_01

HAR-08_041911_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

Raw data were not reviewed for this SDG.

XIII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14817-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Data Qualification Summary - SDG 280-14817-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14817-1	HAR-29_041911_01 HAR-08_041911_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 280-14817-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG 280-14817-1**

No Sample Data Qualified in this SDG

LDC #: 25468A3b
 SDG #: 280-14817-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/23/11
 Page: 1 of 1
 Reviewer: JVG
 2nd Reviewer: [Signature]

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/19/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS / D
IX.	Regional quality assurance and quality control	N	
X.	Florisil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation and reported CRQLs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates	N	
XVI.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: *Water*

1	HAR-29_041911_01	11	MB 280-63228 / -A	21	31
2	HAR-08_041911_01	12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 19, 2011
LDC Report Date: May 19, 2011
Matrix: Water
Parameters: Metals
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14817-1

Sample Identification

HAR-29_041911_01
HAR-08_041911_01
HAR-13_041911_01
HAR-29_041911_01F
HAR-08_041911_01F
HAR-13_041911_01F
HAR-08_041911_01MS
HAR-08_041911_01MSD
HAR-13_041911_01MS
HAR-13_041911_01MSD
HAR-29_041911_01FMS
HAR-29_041911_01FMMSD

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 12 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B, 6020, and 7000 for Metals. The metals analyzed were Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No metal contaminants were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Sodium	0.102 mg/L	HAR-29_041911_01F HAR-13_041911_01F
PB (prep blank)	Tin	0.00156 mg/L	HAR-29_041911_01F HAR-08_041911_01F
PB (prep blank)	Barium Tin	0.000379 mg/L 0.000176 mg/L	HAR-29_041911_01 HAR-08_041911_01

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
HAR-29_041911_01F	Tin	0.0021 mg/L	0.0021U mg/L
HAR-08_041911_01F	Tin	0.0017 mg/L	0.0017U mg/L
HAR-29_041911_01	Tin	0.00039 mg/L	0.00039U mg/L

No field blanks were identified in this SDG.

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Analyte	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS (HAR-29_041911_01 HAR-08_041911_01)	Mercury	88 (90-115)	-	-	J (all detects) UJ (all non-detects)	P

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution data were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-14817-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Data Qualification Summary - SDG 280-14817-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-14817-1	HAR-29_041911_01 HAR-08_041911_01	Mercury	J (all detects) UJ (all non-detects)	P	Laboratory control samples (%R) (L)
280-14817-1	HAR-29_041911_01 HAR-08_041911_01 HAR-13_041911_01 HAR-29_041911_01F HAR-08_041911_01F HAR-13_041911_01F	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Laboratory Blank Data Qualification Summary - SDG 280-14817-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-14817-1	HAR-29_041911_01F	Tin	0.0021U mg/L	A	B
280-14817-1	HAR-08_041911_01F	Tin	0.0017U mg/L	A	B
280-14817-1	HAR-29_041911_01	Tin	0.00039U mg/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Field Blank Data Qualification Summary - SDG 280-14817-1**

No Sample Data Qualified in this SDG

LDC #: 25468A4

VALIDATION COMPLETENESS WORKSHEET

Date: 5-18-11

SDG #: 280-14817-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: MG

2nd Reviewer: 

METHOD: Metals (EPA SW 846 Method 6010B/6020/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4-19-11
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	A	MS/MSO
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	SW	LCS/LCSD
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	not utilized
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	
XIV.	Field Duplicates	N	
XV.	Field Blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

all water

1	HAR-29_041911_01	11	HAR-29_041911_01FMS	21		31	
2	HAR-08_041911_01	12	HAR-29_041911_01FMSD	22		32	
3	HAR-13_041911_01	13		23		33	
4	HAR-29_041911_01F	14		24		34	
5	HAR-08_041911_01F	15		25		35	
6	HAR-13_041911_01F	16		26		36	
7	HAR-08_041911_01MS	17		27		37	
8	HAR-08_041911_01MSD	18		28		38	
9	HAR-13_041911_01MS	19		29	1 PBW1	39	
10	HAR-13_041911_01MSD	20		30	2 PBW2	40	

Notes: Samples appended with "F" were analyzed for dissolved metals

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)

Sample Concentration units, unless otherwise noted: mg/L

Soil preparation factor applied: NA
Associated Samples: 4, 6 (>5x)

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	No Qual's.				
Na		0.102		0.51					

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)

Sample Concentration units, unless otherwise noted: mg/L

Soil preparation factor applied: NA
Associated Samples: 4, 5 Qual: U (B)

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit						
Sn		0.00156		0.0078	4	5			0.0021	0.0017

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)

Sample Concentration units, unless otherwise noted: mg/L

Soil preparation factor applied: NA
Associated Samples: 1, 2 Qual: U (B)

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit						
Ba		0.000379		0.001895	1					
Sn		0.000176		0.00088					0.00039	

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 19, 2011

LDC Report Date: May 24, 2011

Matrix: Water

Parameters: Herbicides

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14817-1

Sample Identification

HAR-29_041911_01

HAR-08_041911_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8151A for Herbicides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No herbicide contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
MB 280-63460/1-A	4/21/11	Dinoseb	0.180 ug/L	All samples in SDG 280-14817-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/(Matrix Spike) Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14817-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Data Qualification Summary - SDG 280-14817-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14817-1	HAR-29_041911_01 HAR-08_041911_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Laboratory Blank Data Qualification Summary - SDG 280-14817-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Field Blank Data Qualification Summary - SDG 280-14817-1**

No Sample Data Qualified in this SDG

LDC #: 25468A5
 SDG #: 280-14817-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/23/11
 Page: 1 of 1
 Reviewer: *MB*
 2nd Reviewer: *CV*

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 5/19/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	SW	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	LCS / D
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	HAR-29_041911_01	11	MB 286-63460/A-A	21	31
2	HAR-08_041911_01	12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

VALIDATION FINDINGS WORKSHEET

METHOD: GC HPLC

8310	8330	8151	8141	8141(Cont)	8021B
A. Acenaphthene	A. HMX	A. 2,4-D	A. Dichlorvos	V. Fensulfothion	V. Benzene
B. Acenaphthylene	B. RDX	B. 2,4-DB	B. Mevinphos	W. Bolstar	CC. Toluene
C. Anthracene	C. 1,3,5-Trinitrobenzene	C. 2,4,5-T	C. Demeton-O	X. EPN	EE. Ethyl Benzene
D. Benzo(a)anthracene	D. 1,3-Dinitrobenzene	D. 2,4,5-TP	D. Demeton-S	Y. Azinphos-methyl	SSS. O-Xylene
E. Benzo(a)pyrene	E. Tetryl	E. Dinoseb	E. Ethoprop	Z. Coumaphos	RRR. MP-Xylene
F. Benzo(b)fluoranthene	F. Nitrobenzene	F. Dichlorprop	F. Naled	AA. Parathion	GG. Total Xylene
G. Benzo(g,h,i)perylene	G. 2,4,6-Trinitrotoluene	G. Dicamba	G. Sulfotep	BB. Trichloronate	
H. Benzo(k)fluoranthene	H. 4-Amino-2,6-dinitrotoluene	H. Dalapon	H. Phorate	CC. Trichlorinate	
I. Chrysene	I. 2-Amino-4,6-dinitrotoluene	I. MCPP	I. Dimethoate	DD. Trifluralin	
J. Dibenz(a,h)anthracene	J. 2,4-Dinitrotoluene	J. MCPA	J. Diazinon	EE. Def	
K. Fluoranthene	K. 2,6-Dinitrotoluene	K. Pentachlorophenol	K. Disulfoton	FF. Prowl	
L. Fluorene	L. 2-Nitrotoluene	L. 2,4,5-TP (silvex)	L. Parathion-methyl	GG. Ethion	
M. Indeno(1,2,3-cd)pyrene	M. 3-Nitrotoluene	M. Silvex	M. Ronnel		
N. Naphthalene	N. 4-Nitrotoluene		N. Malathion		
O. Phenanthrene	O. Nitroglycerin		O. Chlorpyrifos		
P. Pyrene	P.		P. Fenthion		
Q.	Q		Q. Parathion-ethyl		
R.			R. Trichlorate		
S.			S. Merphos		
			T. Stirofos		
			U. Tokuthion		

Notes:

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 19, 2011
LDC Report Date: May 19, 2011
Matrix: Water
Parameters: Wet Chemistry
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14817-1

Sample Identification

HAR-29_041911_01
HAR-08_041911_01
HAR-13_041911_01
HAR-23_041911_01
HAR-29_041911_01MS
HAR-29_041911_01MSD
HAR-29_041911_01DUP
HAR-13_041911_01MS
HAR-13_041911_01MSD
HAR-13_041911_01DUP

Introduction

This data review covers 10 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Standard Method 2320B for Alkalinity, EPA Method 350.1 for Ammonia as Nitrogen, EPA Method 300.0 for Chloride, Fluoride, Nitrate, and Sulfate, Standard Method 2510B for Conductivity, EPA SW 846 Method 9012A for Cyanide, EPA Method 314.0 for Perchlorate, EPA SW 846 Method 9040B for pH, Standard Method 4500-S2-D for Sulfide, Standard Method 2540C for Total Dissolved Solids, and EPA Method 180.1 for Turbidity.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

Raw data were not reviewed for this SDG. The review was based on QC data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
HAR-29_041911_01	pH	98.25 hours	48 hours	J (all detects) UJ (all non-detects)	P
HAR-08_041911_01	pH	97.25 hours	48 hours	J (all detects) UJ (all non-detects)	P
HAR-13_041911_01	pH	98.50 hours	48 hours	J (all detects) UJ (all non-detects)	P
HAR-23_041911_01	pH	95.25 hours	48 hours	J (all detects) UJ (all non-detects)	P
HAR-29_041911_01DUP	pH	98.25 hours	48 hours	J (all detects) UJ (all non-detects)	P

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks.

No field blanks were identified in this SDG.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-14817-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-14817-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-14817-1	HAR-29_041911_01 HAR-08_041911_01 HAR-13_041911_01 HAR-23_041911_01	pH	J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-14817-1	HAR-29_041911_01 HAR-08_041911_01 HAR-13_041911_01 HAR-23_041911_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-14817-1**

No Sample Data Qualified in this SDG


**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-14817-1**

No Sample Data Qualified in this SDG

LDC #: 25468A6
 SDG #: 280-14817-1
 Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5-18-11
 Page: 1 of 1
 Reviewer: MG
 2nd Reviewer: 

METHOD: (Analyte) Alkalinity (SM2320B), Ammonia-N (EPA Method 350.1), Chloride, Fluoride, Nitrate, Sulfate (EPA Method 300.0), Conductivity (SM2510B), Cyanide (EPA SW846 Method 9012A), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B), Sulfide (SM4500-S2 D), TDS (SM2540C), Turbidity (EPA Method 180.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: 4-19-11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/MSD
V	Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS/LCSD
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: all water

1	HAR-29_041911_01	11		21		31
2	HAR-08_041911_01	12		22		32
3	HAR-13_041911_01	13		23		33
4	HAR-23_041911_01	14		24		34
5	HAR-29_041911_01MS	15		25		35
6	HAR-29_041911_01MSD	16		26		36
7	HAR-29_041911_01DUP	17		27		37
8	HAR-13_041911_01MS	18		28		38
9	HAR-13_041911_01MSD	19		29		39
10	HAR-13_041911_01DUP	20	PBW	30		40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 19, 2011

LDC Report Date: May 24, 2011

Matrix: Water

Parameters: Diesel Range Organics

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14817-1

Sample Identification

HAR-29_041911_01
HAR-08_041911_01
HAR-13_041911_01
HAR-23_041911_01

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Diesel Range Organics.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No diesel range organic contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14817-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Data Qualification Summary - SDG 280-14817-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14817-1	HAR-29_041911_01 HAR-08_041911_01 HAR-13_041911_01 HAR-23_041911_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Laboratory Blank Data Qualification Summary - SDG 280-14817-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Field Blank Data Qualification Summary - SDG 280-14817-1**

No Sample Data Qualified in this SDG

LDC #: 25468A8
 SDG #: 280-14817-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/23/11
 Page: 1 of 1
 Reviewer: ML
 2nd Reviewer: [Signature]

METHOD: GC Diesel Range Organics (8015 ~~Oklahoma~~ Department of Environmental Quality)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/19/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	A	LCS 10
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: Water

1	HAR-29_041911_01	11	MB 280-63277/1-A	21	31
2	HAR-08_041911_01	12		22	32
3	HAR-13_041911_01	13		23	33
4	HAR-23_041911_01	14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 19, 2011
LDC Report Date: May 24, 2011
Matrix: Water
Parameters: 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14817-1

Sample Identification

HAR-29_041911_01
TB_HAR-29_041911
HAR-08_041911_01

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 504.1 for 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in the method blanks.

Sample TB_HAR-29_041911 was identified as a trip blank. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14817-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Data Qualification Summary -
 SDG 280-14817-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14817-1	HAR-29_041911_01 TB_HAR-29_041911 HAR-08_041911_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Laboratory Blank Data
 Qualification Summary - SDG 280-14817-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Field Blank Data Qualification
 Summary - SDG 280-14817-1**

No Sample Data Qualified in this SDG

LDC #: 25468A10

VALIDATION COMPLETENESS WORKSHEET

Date: 5/23/11

SDG #: 280-14817-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: *JLY*
2nd Reviewer: *[Signature]*

METHOD: GC 1,2-Dibromomethane & 1,2-Dibromo-3-chloropropane (EPA Method 504.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/19/11
II	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client spec
VII.	Laboratory control samples	A	LCS 1b
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	MD	TB = 2

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	HAR-29_041911_01	11	MB 280-67871 / 4-A	21		31	
2	TB HAR-29_041911	12		22		32	
3	HAR-08_041911_01	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 19, 2011

LDC Report Date: May 24, 2011

Matrix: Water

Parameters: Organophosphorus Pesticides

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14817-1

Sample Identification

HAR-29_041911_01

HAR-08_041911_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8141A for Organophosphorus Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No organophosphorus pesticide contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14817-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field blanks were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Data Qualification Summary - SDG 280-14817-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14817-1	HAR-29_041911_01 HAR-08_041911_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Laboratory Blank Data Qualification Summary - SDG 280-14817-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Field Blank Data Qualification Summary - SDG 280-14817-1**

No Sample Data Qualified in this SDG

LDC #: 25468A17

VALIDATION COMPLETENESS WORKSHEET

Date: 5/23/11

SDG #: 280-14817-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: *MLC*
2nd Reviewer: *Q*

METHOD: GC Organophosphorus Pesticides (EPA SW 846 Method 8141A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/19/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	LCS 1p
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	HAR-29_041911_01	11	MB 280-63749/A	21		31	
2	HAR-08_041911_01	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 19, 2011

LDC Report Date: May 25, 2011

Matrix: Water

Parameters: Hexachlorophene

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14817-1

Sample Identification

HAR-29_041911_01

HAR-08_041911_01

HAR-29_041911_01MS

HAR-29_041911_01MSD

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8321A for Hexachlorophene.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No hexachlorophene was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
HAR-29_041911_01MS/MSD (HAR-29_041911_01)	Hexachlorophene	45 (50-150)	39 (50-150)	-	J (all detects) UJ (all non-detects)	A

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14817-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Data Qualification Summary - SDG 280-14817-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14817-1	HAR-29_041911_01	Hexachlorophene	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R)(Q)
280-14817-1	HAR-29_041911_01 HAR-08_041911_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Laboratory Blank Data Qualification Summary - SDG 280-14817-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Field Blank Data Qualification Summary - SDG 280-14817-1**

No Sample Data Qualified in this SDG

LDC #: 25468A44
 SDG #: 280-14817-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/23/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: LC/MS Hexachlorophene (EPA SW 846 Method 8321A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/19/11</u>
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: Water

1	HAR-29_041911_01	11	MB 280-67849/10	21	31
2	HAR-08_041911_01	12		22	32
3	HAR-29_041911_01MS	13		23	33
4	HAR-29_041911_01MSD	14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 19, 2011

LDC Report Date: May 24, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14817-1/A1D200467

Sample Identification

HAR-29_041911_01

HAR-08_041911_01

HAR-13_041911_01

HAR-23_041911_01

HAR-29_041911_01MS

HAR-29_041911_01MSD

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14817-1/A1D200467	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Data Qualification Summary - SDG 280-14817-1/A1D200467**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14817-1/ A1D200467	HAR-29_041911_01 HAR-08_041911_01 HAR-13_041911_01 HAR-23_041911_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-14817-1/A1D200467**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Field Blank Data Qualification Summary - SDG 280-14817-1/A1D200467**

No Sample Data Qualified in this SDG

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/19/11
II	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	A	
VII.	Laboratory control samples	A	LCS
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	HAR-29_041911_01	11	11 11 0414 - MB	21	31
2	HAR-08_041911_01	12		22	32
3	HAR-13_041911_01	13		23	33
4	HAR-23_041911_01	14		24	34
5	HAR-29_041911_01MS	15		25	35
6	HAR-29_041911_01MSD	16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 19, 2011

LDC Report Date: May 25, 2011

Matrix: Water

Parameters: Hydrazines

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14817-1

Sample Identification

HAR-29_041911_01

HAR-08_041911_01

HAR-13_041911_01

HAR-23_041911_01

HAR-29_041911_01MS

HAR-29_041911_01MSD

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DVWC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazine contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound	Concentration	Associated Samples
MB 280-63799/25	4/22/11	1,1-Dimethylhydrazine	1.63 ug/L	All samples in SDG 280-14817-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14817-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field blanks were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-14817-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14817-1	HAR-29_041911_01 HAR-08_041911_01 HAR-13_041911_01 HAR-23_041911_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-14817-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-14817-1**

No Sample Data Qualified in this SDG

LDC #: 25468A76

VALIDATION COMPLETENESS WORKSHEET

Date: 5/23/11

SDG #: 280-14817-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: NL

2nd Reviewer: d

METHOD: HPLC Hydrazines (Method DVWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/19/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	SW	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	A	
VII.	Laboratory control samples	A	LCS 1/D
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	HAR-29_041911_01	11	MB 280-63799/25	21		31
2	HAR-08_041911_01	12		22		32
3	HAR-13_041911_01	13		23		33
4	HAR-23_041911_01	14		24		34
5	HAR-29_041911_01MS	15		25		35
6	HAR-29_041911_01MSD	16		26		36
7		17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

Notes: _____

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

All circled methods are applicable to each sample.

Sample ID	Matrix	(A)	(B)	Parameter (C)
1, 2	W	Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
3, 4	W	Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine

Comments: _____

Blanks

METHOD: GC HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- Y N N/A Were all samples associated with a given method blank?
- Y N N/A Was a method blank performed for each matrix and whenever a sample extraction procedure was performed?
- Y N N/A Was a method blank performed with each extraction batch?
- Y N N/A Were any contaminants found in the method blanks? If yes, please see findings below.

Level 1/MB Only

- Y N N/A (Gasoline and aromatics only) Was a method blank analyzed with each 24 hour batch?
- Y N N/A Was a method blank analyzed for each analytical / extraction batch of ≤20 samples?

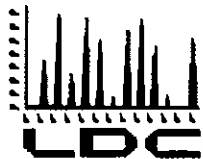
Blank extraction date: NA Blank analysis date: 4/22/11 Associated samples: A11 (NB)

Compound	Blank ID	Sample Identification
<u>B</u>	<u>MB 280-63799/25</u>	
	<u>1-63</u>	

Blank extraction date: _____ Blank analysis date: _____ Associated samples: _____

Compound	Blank ID	Sample Identification

ALL CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT: All contaminants within five times the method blank concentration were qualified as not detected. "U".



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

June 9, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

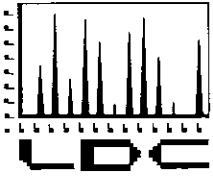
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 12, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25468:

<u>SDG #</u>	<u>Fraction</u>
280-14817//IUD2255/ A1D200567, 280-14865-1//IUD2257/ A1D210577, 280-14927-1//IUD2311/ A1D220525	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Pentachlorophenol, N- Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, 1,2- Dibromoethane & 1,2-Dibromo-3-chloropropane, Organophosphorus Pesticides, Hexachloroethane, Formaldehyde, Hydrazine
280-14865-2	N-Nitrosodimethylamine, Perchlorate
280-15011-2	N-Nitrosodimethylamine

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004



- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV LDC #25468 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane 8260B-S		1,2,3-TCP (524.2)		SVOA (8270C -SIM)		SVOA (8270C -LL)		PCP (8270C -LL)		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (OK-DEQ)		EDB (504.1)		Formaldehyde (8315)		Hexachloro-rophene (8321A)		OPHS Pest. (8141A)		Herbs (8151A)	
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-14817/ IUD2255/ A1D200567	05/12/11	06/03/11	6	0	6	0	3	0	4	0	-	-	2	0	4	0	2	0	2	0	2	0	3	0	4	0	3	0	4	0	2	0	2	0	2	0
B	280-14865-1/ IUD2257/ A1D210577	05/12/11	06/03/11	11	0	11	0	9	0	7	0	-	-	5	0	9	0	5	0	5	0	5	0	5	0	7	0	6	0	8	0	5	0	5	0	5	0
C	280-14865-2	05/12/11	06/03/11	-	-	-	-	-	-	-	-	-	-	-	-	3	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D	280-14927-1/ IUD2311/ A1D220525	05/12/11	06/03/11	11	0	11	0	3	0	8	0	2	0	-	-	8	0	-	-	4	0	-	-	4	0	9	0	-	-	6	0	-	-	-	-	-	-
E	280-15011-2	05/12/11	06/03/11	-	-	-	-	-	-	-	-	-	-	-	-	6	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total	T/PG			28	0	28	0	15	0	19	0	2	0	7	0	30	0	7	0	11	0	8	0	12	0	20	0	9	0	18	0	7	0	7	0	7	238

Client Select IV LDC #25468 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydra-zine (DVWC)		CLO ₄ (6860)		Alk. (2320B)		NH ₃ -N (350.1)		CI SO ₄ (300.0)		Br NO ₂ O-PO ₄		F NO ₃ (300.0)		CN- (9012A)		Cond. (2510B)		Cr(VI) & Diss. Cr(VI)		CLO ₄ (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)		S= (4500 -S2 D)	
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-14817-1	05/12/11	06/03/11	4	0	2	0	2	0	-	-	2	0	4	0	2	0	-	-	4	0	2	0	2	0	-	-	4	0	4	0	2	0	2	0	2	0
B	280-14865-1	05/12/11	06/03/11	9	0	8	0	8	0	-	-	2	0	9	0	2	0	-	-	9	0	5	0	2	0	-	-	9	0	9	0	2	0	2	0	2	0
C	280-14865-2	05/12/11	06/03/11	-	-	-	-	-	-	5	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
D	280-14927-1	05/12/11	06/03/11	5	0	5	0	7	0	-	-	-	-	4	0	2	0	2	0	6	0	-	-	-	-	2	0	4	0	4	0	-	-	-	-		
Total	T/PG			18	0	15	0	17	0	5	0	4	0	17	0	6	0	2	0	19	0	7	0	4	0	2	0	17	0	17	0	4	0	4	0	7	168

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: May 25, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14865-1

Sample Identification

RD-52A_042011_01
TB_RD-52A_042011
RD-52B_042011_01
RD-52C_042011_01
WS-04A_042011_01
HAR-01_042011_01
TB_HAR-01_042011
HAR-03_042011_01
HAR-04_042011_01
HAR-16_042011_01
HAR-16_042011_36

Introduction

This data review covers 11 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Samples TB_RD-52A_042011 and TB_HAR-01_042011 were identified as trip blanks. No volatile contaminants were found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
RD-52A_042011_01	Toluene-d8	112 (88-110)	All TCL compounds except cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene	J (all detects)	A
HAR-01_042011_01	Toluene-d8	111 (88-110)	All TCL compounds except Acrolein Acrylonitrile Trichloroethene	J (all detects)	A
HAR-03_042011_01	Toluene-d8	111 (88-110)	All TCL compounds except Acrolein Acrylonitrile	J (all detects)	A

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
HAR-16_042011_01	Toluene-d8	111 (88-110)	All TCL compounds except Acrolein Acrylonitrile Trichloroethene	J (all detects)	A
HAR-16_042011_36	1,2-Dichloroethane-d4	76 (80-120)	All TCL compounds except Acrolein Acrylonitrile Trichloroethene	J (all detects) UJ (all non-detects)	A
MB 280-65616/6	1,2-Dichloroethane-d4	71 (80-120)	All TCL compounds	J (all detects) UJ (all non-detects)	P
HAR-16_042011_36	1,2-Dichloroethane-d4	71 (80-120)	Trichloroethene	J (all detects) UJ (all non-detects)	A

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D 280-65616/4,5 (HAR-16_042011_36 MB 280-65616/6)	2-Hexanone 4-Methyl-2-pentanone Methyl ethyl ketone	124 (57-131) 122 (65-120) 124 (57-120)	133 (57-131) 131 (65-120) 135 (57-120)	- - -	J (all detects) J (all detects) J (all detects)	P

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14865-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-16_042011_01 and HAR-16_042011_36 were identified as field duplicates. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-16_042011_01	HAR-16_042011_36			
1,1-Dichloroethene	2.2	2.2	0 (≤35)	-	-
cis-1,2 -Dichloroethene	16	16	0 (≤35)	-	-
Trichloroethene	1600	1900	17 (≤35)	-	-

Samples HAR-04_042011_01 and HAR-04_042011_03 (from SDG IUD2042) were identified as split samples. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-04_042011_01	HAR-04_042011_03			
1,1,1-Trichloroethane	0.54	0.53	2 (≤35)	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-04_042011_01	HAR-04_042011_03			
cis-1,2-Dichloroethene	7.6	8.6	12 (≤35)	-	-
Trichloroethene	100	140	33 (≤35)	-	-

Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-14865-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14865-1	RD-52A_042011_01	All TCL compounds except cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene	J (all detects)	A	Surrogate spikes (%R) (S)
280-14865-1	HAR-01_042011_01 HAR-16_042011_01	All TCL compounds except Acrolein Acrylonitrile Trichloroethene	J (all detects)	A	Surrogate spikes (%R) (S)
280-14865-1	HAR-03_042011_01	All TCL compounds except Acrolein Acrylonitrile	J (all detects)	A	Surrogate spikes (%R) (S)
280-14865-1	HAR-16_042011_36	All TCL compounds except Acrolein Acrylonitrile	J (all detects) UJ (all non-detects)	A	Surrogate spikes (%R) (S)
280-14865-1	HAR-16_042011_36	2-Hexanone 4-Methyl-2-pentanone Methyl ethyl ketone	J (all detects) J (all detects) J (all detects)	P	Laboratory control samples (%R) (L)
280-14865-1	RD-52A_042011_01 TB_RD-52A_042011 RD-52B_042011_01 RD-52C_042011_01 WS-04A_042011_01 HAR-01_042011_01 TB_HAR-01_042011 HAR-03_042011_01 HAR-04_042011_01 HAR-16_042011_01 HAR-16_042011_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-14865-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-14865-1

No Sample Data Qualified in this SDG

LDC #: 25468B1a
 SDG #: 280-14865-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/24/11

Page: 1 of 1

Reviewer: JG

2nd Reviewer: [Signature]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	SW	LCS 1b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / Split	SW	D = 10, 11 S = 9 + HAR-04.042011-03
XVII.	Field blanks	ND	TB = 2, 7 (11D2042)

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

WATER

1	RD-52A_042011_01	11	HAR-16_042011_36	21	1	MB 280-63578/4	31	(FFFF, 6666)
2	TB_RD-52A_042011	12		22	2	MB 280-63663/6	32	↓
3	RD-52B_042011_01	13		23	3	MB 280-64374/7	33	
4	RD-52C_042011_01	14		24	4	MB 280-65616/6	34	
5	WS-04A_042011_01	15		25			35	
6	HAR-01_042011_01	16		26			36	
7	TB_HAR-01_042011	17		27			37	
8	HAR-03_042011_01	18		28			38	
9	HAR-04_042011_01	19		29			39	
10	HAR-16_042011_01	20		30			40	

VOCs + IPA = 1-4
 VOCs = 5
 VOCs, IPA, APPIX, A, A = 6-11

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC. 1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl chloride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone (MIBK)	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF; ** = Calibration check compounds (CCC) for %RSD.

VALIDATION FINDINGS WORKSHEET
Surrogate Spikes

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Were all surrogate %R within QC limits?

Y (N) N/A If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R out of outside of criteria?

#	Date	Sample ID	Surrogate	%Recovery (Limits)	Qualifications
		1	TOL	112 (88-110)	J/DCE/A (all TOL except GGG, PPP, S)
		6		111 ()	(all except FFFF, GGGG, S)
		8		111 ()	(all except FFFF, GGGG)
		10		111 ()	(all except FFFF, GGGG, S)
		11	DCE	76 (80-120)	J/MS/A (all except FFFF, GGGG, S)
		11B 280-65616/6		71 ()	J/MS/A (All TOL)
		11		71 ()	J/MS/A (S only)
				()	
				()	
				()	
				()	
				()	
				()	
				()	
				()	

QC Limits (Water)
 85-120
 75-120
 70-120
 85-115

QC Limits (Soil)
 85-115
 85-120
 60-120
 75-125

SMC1 (TOL) = Toluene-d8
 SMC2 (BFB) = Bromofluorobenzene
 SMC3 (DCE) = 1,2-Dichloroethane-d4
 SMC4 (DFM) = Dibromofluoromethane

LDC #: 25468b1a

VALIDATION FINDINGS WORKSHEET Laboratory Control Samples (LCS)

Page: of
Reviewer:
2nd Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

N N/A
 Y (N) N/A

Was a LCS required?

Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?

#	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	LCS/D 280-65616/4.5	Z	124 (57-131)	133 (57-131)	()	11, MB 280-65616/6	J dets/p (1)
		Y	122 (65-120)	131 (65-120)	()		
		N/A	124 (57-120)	135 (57-120)	()		
			()	()	()		
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VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GC MS Volatiles (EPA SW 846 Method 8260B)

Y N NA
Y N NA

Were field duplicate pairs identified in this SDG?

Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent only)
	10	11		
1,1-Dichloroethene	2.2	2.2	0	
cis-1,2 -Dichloroethene	16	16	0	
Trichloroethene	1600	1900	17	

VALIDATION FINDINGS WORKSHEET
Field Split

METHOD: GC MS VOA (EPA SW 846 Method 8260B)

Y/N/NA Were field split pairs identified in this SDG?
Y/N/NA Were target analytes detected in the field split pairs?

Compound	Concentration (ug/L)		(≤ 35) RPD	Qualifications (Parent only)
	HAR-04_042011_01	HAR-04_042011_03		
1,1,1-Trichloroethane	0.54	0.53	2	
cis-1,2-Dichloroethene	7.6	8.6	12	
Trichloroethene	100	140	33	

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: May 24, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14865-1

Sample Identification

RD-52A_042011_01
TB_RD-52A_042011
RD-52B_042011_01
RD-52C_042011_01
WS-04A_042011_01
HAR-01_042011_01
TB_HAR-01_042011
HAR-03_042011_01
HAR-04_042011_01
HAR-16_042011_01
HAR-16_042011_36

Introduction

This data review covers 11 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-dioxane was found in the method blanks.

Samples TB_RD52A_042011 and TB_HAR-01_042011 were identified as trip blanks. No 1,4-dioxane was found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14865-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-16_042011_01 and HAR-16_042011_36 were identified as field duplicates. No 1,4-Dioxane was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-16_042011_01	HAR-16_042011_36			
1,4-Dioxane	1.8	1.7	6 (≤35)	-	-

Samples HAR-04_042011_01 and HAR-04_042011_03 (from SDG IUD2042) were identified as split samples. No 1,4-Dioxane was detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
 1,4-Dioxane - Data Qualification Summary - SDG 280-14865-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14865-1	RD-52A_042011_01 TB_RD-52A_042011 RD-52B_042011_01 RD-52C_042011_01 WS-04A_042011_01 HAR-01_042011_01 TB_HAR-01_042011 HAR-03_042011_01 HAR-04_042011_01 HAR-16_042011_01 HAR-16_042011_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-14865-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-14865-1**

No Sample Data Qualified in this SDG

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 9/20/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS / b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / Split	SW	D = 10, 11 S = 9 + HAR-04-042011-03
XVII.	Field blanks	ND	TB = 2, 7 (1UD2042)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 *ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: *Water*

1	RD-52A_042011_01	11	HAR-16_042011_36	b	21	MB 280-64942/12	31
2	TB_RD-52A_042011	12			22		32
3	RD-52B_042011_01	13			23		33
4	RD-52C_042011_01	14			24		34
5	WS-04A_042011_01	15			25		35
6	HAR-01_042011_01	16			26		36
7	TB_HAR-01_042011	17			27		37
8	HAR-03_042011_01	18			28		38
9	HAR-04_042011_01	19			29		39
10	HAR-16_042011_01	20			30		40

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GC MS Volatiles (EPA SW 846 Method 8260B-SIM)

Y/N/NA
~~Y/N/NA~~

Were field duplicate pairs identified in this SDG?
 Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent only)
	10	11		
1,4-Dioxane	1.8	1.7	6	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: May 24, 2011

Matrix: Water

Parameters: 1,2,3-Trichloropropane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14865-1/IUD2257

Sample Identification

RD-52A_042011_01
RD-52B_042011_01
RD-52C_042011_01
HAR-01_042011_01
HAR-03_042011_01
HAR-04_042011_01
HAR-16_042011_01
HAR-16_042011_36
HAR-16_042011_01DUP
TB_HAR01_042011

Introduction

This data review covers 10 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-trichloropropane was found in the method blanks.

Sample TB_HAR-01_042011 was identified as a trip blank. No 1,2,3-trichloropropane was found in this blank.

VI. Surrogate Spikes

Surrogate spikes were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Raw data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14865-1/IUD2257	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-16_042011_01 and HAR-16_042011_36 were identified as field duplicates. No 1,2,3-trichloropropane was detected in any of the samples.

Samples HAR-04_042011_01 and HAR-04_042011_03 (from SDG IUD2042) were identified as split samples. No 1,2,3-trichloropropane was detected in any of the samples.

Boeing SSFL GW 2nd Qtr, 2011

1,2,3-Trichloropropane - Data Qualification Summary - SDG 280-14865-1/IUD2257

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14865-1/IUD2257	RD-52A_042011_01 RD-52B_042011_01 RD-52C_042011_01 HAR-01_042011_01 HAR-03_042011_01 HAR-04_042011_01 HAR-16_042011_01 HAR-16_042011_36 TB_HAR01_042011	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011

1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG 280-14865-1/IUD2257

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011

1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG 280-14865-1/IUD2257

No Sample Data Qualified in this SDG

METHOD: GC/MS 1,2,3-Trichloropropane (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates / Lab Dup	N/A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / Split	ND	D = 7, 8 S = 6 + HAR-04_042011-03
XVII.	Field blanks	ND	TB = 10 (IUD2092)

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: *Water*

1	RD-52A_042011_01	11	11 D 3087 - Blk 1	21	31
2	RD-52B_042011_01	12	11 D 3240 - ↓	22	32
3	RD-52C_042011_01	13		23	33
4	HAR-01_042011_01	14		24	34
5	HAR-03_042011_01	15		25	35
6	HAR-04_042011_01	16		26	36
7	HAR-16_042011_01 <i>D</i>	17		27	37
8	HAR-16_042011_36 <i>D</i>	18		28	38
9	HAR-16_042011_01DUP	19		29	39
10	TB - HAR-01_042011	20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: May 24, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14865-1

Sample Identification

RD-52B_042011_01
RD-52C_042011_01
HAR-01_042011_01
HAR-03_042011_01
HAR-04_042011_01
HAR-16_042011_01
HAR-16_042011_36

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-63474/1-A	4/21/11	Bis(2-ethylhexyl)phthalate	1.99 ug/L	RD-52B_042011_01 RD-52C_042011_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
RD-52B_042011_01	Bis(2-ethylhexyl)phthalate	2.0 ug/L	9.5U ug/L
RD-52C_042011_01	Bis(2-ethylhexyl)phthalate	2.0 ug/L	9.5U ug/L

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14865-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Samples RD-52A_042011_01 and WS-04A_042011_01 analyses were cancelled due to broken bottles received by laboratory.

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-16_042011_01 and HAR-16_042011_36 were identified as field duplicates. No semivolatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-16_042011_01	HAR-16_042011_36			
N-Nitrosodimethylamine	1.8	1.6	12 (≤ 35)	-	-

Samples HAR-04_042011_01 and HAR-04_042011_03 (from SDG IUD2042) were identified as split samples. No semivolatiles were detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-14865-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14865-1	RD-52B_042011_01 RD-52C_042011_01 HAR-01_042011_01 HAR-03_042011_01 HAR-04_042011_01 HAR-16_042011_01 HAR-16_042011_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-14865-1**

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-14865-1	RD-52B_042011_01	Bis(2-ethylhexyl)phthalate	9.5U ug/L	A	B
280-14865-1	RD-52C_042011_01	Bis(2-ethylhexyl)phthalate	9.5U ug/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-14865-1**

No Sample Data Qualified in this SDG

LDC #: 25468B2a
 SDG #: 280-14865-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/24/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/20/11</u>
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	<u>Client Spec</u>
VIII.	Laboratory control samples	A	<u>LCS 1b</u>
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	SW	<u>Samples RD-52A-042011-01 and WS-04A-042011-01 bottles broken</u>
XVI.	Field duplicates / Split	SW	<u>D = 6, 7 *S = 5 + HAR-04-042011-03</u> <u>(1 UD 2011)</u>
XVII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

XND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	RD-52B_042011_01	<u>11</u>	<u>MB 280-63979 / A-21</u>	31
2	RD-52C_042011_01	<u>12</u>	<u>MB 280-64443 / A-22</u>	32
3	HAR-01_042011_01	13		33
4	HAR-03_042011_01	14		34
5	HAR-04_042011_01	15		35
6	HAR-16_042011_01	<u>D</u> 16		36
7	HAR-16_042011_36	<u>D</u> 17		37
8		18		38
9		19		39
10		20		40

Phthalates + NB = 1, 2
APP IX = 3-7

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(e)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU.
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenyl ether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes: * = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

Blanks

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- Y N N/A Was a method blank analyzed for each matrix?
- Y N N/A Was a method blank analyzed for each concentration preparation level?
- Y N N/A Was a method blank associated with every sample?
- X N N/A Was the blank contaminated? If yes, please see qualification below.

Blank extraction date: 4/21/11 Blank analysis date: 4/26/11

Conc. units: ug/L Associated Samples: 1, 2

Code: B

Compound	Blank ID	Sample Identification	
<u>MA</u>	<u>280-63474</u>	<u>1</u>	<u>2</u>
<u>EET</u>	<u>199</u>	<u>2.0/9.54</u>	<u>2.0/9.54</u>

Blank extraction date: _____ Blank analysis date: _____

Conc. units: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification	

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GC MS SVOA (EPA SW 846 Method 8270C)

- Y N NA Were field duplicate pairs identified in this SDG?
- Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤ 35) RPD	Qualifications (Parent only)
	6	7		
N-Nitrosodimethylamine	1.8	1.6	12	

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: May 24, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14865-1

Sample Identification

RD-52A_042011_01
RD-52B_042011_01
RD-52C_042011_01
WS-04A_042011_01
HAR-01_042011_01
HAR-03_042011_01
HAR-04_042011_01
HAR-16_042011_01
HAR-16_042011_36

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-nitrosodimethylamine was found in the method blanks.

Samples FB_HAR-01_042011_19 and FB_HAR-16-042011_19 (from SDG 280-14685-2) were identified as field blanks. No N-nitrosodimethylamine was found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14865-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-16_042011_01 and HAR-16_042011_36 and samples HAR-01_042011_01 and HAR-01_042011_36 (from SDG 280-14685-2) were identified as field duplicates. No N-nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-16_042011_01	HAR-16_042011_36			
N-Nitrosodimethylamine	1.3	1.2	8 (≤35)	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-01_042011_01	HAR-01_042011_36			
N-Nitrosodimethylamine	0.017	0.018	6 (≤35)	-	-

Samples HAR-04_042011_01 and HAR-04_042011_03 (from SDG IUD2042) were identified as split samples. No N-nitrosodimethylamine was detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-14865-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14865-1	RD-52A_042011_01 RD-52B_042011_01 RD-52C_042011_01 WS-04A_042011_01 HAR-01_042011_01 HAR-03_042011_01 HAR-04_042011_01 HAR-16_042011_01 HAR-16_042011_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary – SDG 280-14865-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-14865-1**

No Sample Data Qualified in this SDG

LDC #: 25468B2b
 SDG #: 280-14865-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/24/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS /p
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	CS = 7 + HAR-04-042011-03 (1UD2042)
XVI.	Field duplicates / Split	SW	D ₁ = 8, 9 D ₂ = 5 + HAR-01-042011-36 (280-146)
XVII.	Field blanks	ND	FB = FB-HAR-01-042011-19 ; FB-HAR-16-042011-19

Note: A = Acceptable *ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

1	RD-52A_042011_01	11	MB 280-63758/1-A	21	31
2	RD-52B_042011_01	12	MB 280-64278/1-A	22	32
3	RD-52C_042011_01	13		23	33
4	WS-04A_042011_01	14		24	34
5	HAR-01_042011_01	15		25	35
6	HAR-03_042011_01	16		26	36
7	HAR-04_042011_01	17		27	37
8	HAR-16_042011_01	18		28	38
9	HAR-16_042011_36	19		29	39
10		20		30	40

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GCMS NDMA (EPA Method 1625M)

Y N NA
Y N NA

Were field duplicate pairs identified in this SDG?
 Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent Only)
	HAR-01_042011_01	HAR-01_042011_36		
NDMA	0.017	0.018	6	

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent Only)
	HAR-16_042011_01	HAR-16_042011_36		
NDMA	1.3	1.2	8	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: May 24, 2011

Matrix: Water

Parameters: Pentachlorophenol

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14865-1

Sample Identification

HAR-01_042011_01
HAR-03_042011_01
HAR-04_042011_01
HAR-16_042011_01
HAR-16_042011_36

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Pentachlorophenol.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No pentachlorophenol was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14865-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-16_042011_01 and HAR-16_042011_36 were identified as field duplicates. No pentachlorophenol was detected in any of the samples.

Samples HAR-04_042011_01 and HAR-04_042011_03 (from SDG IUD2042) were identified as split samples. No pentachlorophenol was detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Data Qualification Summary - SDG 280-14865-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14865-1	HAR-01_042011_01 HAR-03_042011_01 HAR-04_042011_01 HAR-16_042011_01 HAR-16_042011_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Laboratory Blank Data Qualification Summary - SDG 280-14865-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Field Blank Data Qualification Summary - SDG 280-14865-1**

No Sample Data Qualified in this SDG

LDC #: 25468B2d
 SDG #: 280-14865-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/24/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC/MS Pentachlorophenol (EPA SW846 Method 8270C-D)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	X	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS 1b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / Split	ND	D = 4, 5 *S = 3 + HAR-04_042011-03
XVII.	Field blanks	N	(14D2042)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: Water

1	HAR-01_042011_01	11	MB 280-63457 / 1-A	21	31
2	HAR-03_042011_01	12		22	32
3	HAR-04_042011_01	13		23	33
4	HAR-16_042011_01	14		24	34
5	HAR-16_042011_36	15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

* Split sample was analyzed together with as regular 8270 cpd not as low level as in the primary sample.

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 20, 2011
LDC Report Date: May 24, 2011
Matrix: Water
Parameters: Chlorinated Pesticides
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14865-1

Sample Identification

HAR-01_042011_01
HAR-03_042011_01
HAR-04_042011_01
HAR-16_042011_01
HAR-16_042011_36

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticides were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Column	Surrogate	%R (Limits)	Compound	Flag	A or P
MB 280-63549/1-A	1	Tetrachloro-m-xylene	42 (60-140)	All TCL compounds	J (all detects) UJ (all non-detects)	P
	2	Tetrachloro-m-xylene	41 (60-140)			

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

Raw data were not reviewed for this SDG.

XIII. Compound Quantitation and Reported CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14865-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

Samples HAR-16_042011_01 and HAR-16_042011_36 were identified as field duplicates. No chlorinated pesticides were detected in any of the samples.

Samples HAR-04_042011_01 and HAR-04_042011_03 (from SDG IUD2042) were identified as split samples. No chlorinated pesticides were detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Data Qualification Summary - SDG 280-14865-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14865-1	HAR-01_042011_01 HAR-03_042011_01 HAR-04_042011_01 HAR-16_042011_01 HAR-16_042011_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 280-14865-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Field Blank Data Qualification Summary - SDG 280-14865-1**

No Sample Data Qualified in this SDG

LDC #: 25468B3a
 SDG #: 280-14865-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/24/11
 Page: 1 of 1
 Reviewer: Me
 2nd Reviewer: [Signature]

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS 10
IX.	Regional quality assurance and quality control	N	
X.	Florasil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation and reported CRQLs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates / split	ND	D = 4, 5 S = 3 + HAR-04_042011_03 (IND 2042)
XVI.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

1	HAR-01_042011_01	11	h1B 280-63549/1-A	21	31
2	HAR-03_042011_01	12		22	32
3	HAR-04_042011_01	13		23	33
4	HAR-16_042011_01	14		24	34
5	HAR-16_042011_36	15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: May 24, 2011

Matrix: Water

Parameters: Polychlorinated Biphenyls

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14865-1

Sample Identification

HAR-01_042011_01
HAR-03_042011_01
HAR-04_042011_01
HAR-16_042011_01
HAR-16_042011_36

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

Raw data were not reviewed for this SDG.

XIII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14865-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

Samples HAR-16_042011_01 and HAR-16_042011_36 were identified as field duplicates. No Polychlorinated Biphenyls were detected in any of the samples.

Samples HAR-04_042011_01 and HAR-04_042011_03 (from SDG IUD2042) were identified as split samples. No Polychlorinated Biphenyls were detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Data Qualification Summary - SDG 280-14865-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14865-1	HAR-01_042011_01 HAR-03_042011_01 HAR-04_042011_01 HAR-16_042011_01 HAR-16_042011_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 280-14865-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG 280-14865-1**

No Sample Data Qualified in this SDG

LDC #: 25468B3b
 SDG #: 280-14865-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/24/11
 Page: 1 of 1
 Reviewer: Me
 2nd Reviewer: Q

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS 1b
IX.	Regional quality assurance and quality control	N	
X.	Florisiil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation and reported CRQLs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates / Split	MD	D = 4, 5 S = 3 + HAR-04_042011_03
XVI.	Field blanks	N	(14 D 20 4)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: Water

1	HAR-01_042011_01	11	MB 280-63549/1-A	21	31
2	HAR-03_042011_01	12		22	32
3	HAR-04_042011_01	13		23	33
4	HAR-16_042011_01	14		24	34
5	HAR-16_042011_36	15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 20, 2011
LDC Report Date: May 19, 2011
Matrix: Water
Parameters: Metals
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14865-1

Sample Identification

HAR-01_042011_01
HAR-03_042011_01
HAR-04_042011_01
HAR-16_042011_01
HAR-16_042011_36
HAR-01_042011_01F
HAR-03_042011_01F
HAR-04_042011_01F
HAR-16_042011_01F
HAR-16_042011_36F
HAR-03_042011_01MS
HAR-03_042011_01MSD
HAR-16_042011_01MS
HAR-16_042011_01MSD
HAR-01_042011_01FMS
HAR-01_042011_01FMMSD

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 16 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B, 6020, and 7000 for Metals. The metals analyzed were Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No metal contaminants were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Sodium	0.102 mg/L	HAR-16_042011_01F HAR-16_042011_36F
PB (prep blank)	Tin	0.00156 mg/L	HAR-01_042011_01F HAR-03_042011_01F HAR-04_042011_01F HAR-16_042011_01F HAR-16_042011_36F
PB (prep blank)	Barium Tin	0.000379 mg/L 0.00176 mg/L	HAR-01_042011_01 HAR-03_042011_01 HAR-04_042011_01 HAR-16_042011_01 HAR-16_042011_36

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
HAR-01_042011_01F	Tin	0.0017 mg/L	0.0017U mg/L
HAR-03_042011_01F	Tin	0.0020 mg/L	0.0020U mg/L

Sample	Analyte	Reported Concentration	Modified Final Concentration
HAR-04_042011_01F	Tin	0.0018 mg/L	0.0018U mg/L
HAR-16_042011_01F	Tin	0.0017 mg/L	0.0017U mg/L
HAR-16_042011_36F	Tin	0.0017 mg/L	0.0017U mg/L
HAR-03_042011_01	Tin	0.00045 mg/L	0.00045U mg/L

No field blanks were identified in this SDG.

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Analyte	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS (HAR-01_042011_01 HAR-03_042011_01 HAR-04_042011_01 HAR-16_042011_01 HAR-16_042011_36)	Mercury	88 (90-115)	-	-	J (all detects) UJ (all non-detects)	P

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution data were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-14865-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

Samples HAR-16042011_10 and HAR-16_042011_36 and samples HAR-16_042011_01F and HAR-16_042011_36F were identified as field duplicates. No metals were detected in any of the samples with the following exceptions:

Compound	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	HAR-16042011_10	HAR-16_042011_36			
Arsenic	0.00077	0.00074	4 (≤ 35)	-	-
Barium	0.010	0.010	0 (≤ 35)	-	-
Calcium	23	23	0 (≤ 35)	-	-
Cobalt	0.000052	0.000040	26 (≤ 35)	-	-
Iron	0.022U	0.057	89 (≤ 35)	No Qual.	-
Magnesium	4.9	4.9	0 (≤ 35)	-	-
Manganese	0.00045	0.0010	76 (≤ 35)	No Qual.	-

Compound	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	HAR-16042011_10	HAR-16_042011_36			
Nickel	0.00073	0.0016	75 (≤35)	No Qual.	-
Potassium	0.72	0.73	1 (≤35)	-	-
Sodium	51	51	0 (≤35)	-	-
Strontium	0.11	0.11	0 (≤35)	-	-
Vanadium	0.0016	0.0016	0 (≤35)	-	-
Zinc	0.032	0.032	0 (≤35)	-	-

Compound	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	HAR-16_042011_01F	HAR-16_042011_36F			
Arsenic	0.00073	0.00073	0 (≤35)	-	-
Barium	0.0098	0.0099	1 (≤35)	-	-
Calcium	23	23	0 (≤35)	-	-
Cobalt	0.000044	0.000047	7 (≤35)	-	-
Magnesium	5.1	5.1	0 (≤35)	-	-
Nickel	0.00065	0.00086	28 (≤35)	-	-
Potassium	0.74	0.75	1 (≤35)	-	-
Sodium	51	52	2 (≤35)	-	-
Strontium	0.11	0.11	0 (≤35)	-	-
Tin	0.0017	0.0017	0 (≤35)	-	-
Vanadium	0.0015	0.0014	7 (≤35)	-	-
Zinc	0.033	0.032	3 (≤35)	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Samples HAR-04_042011_01 and HAR-04_042011_03 (from SDG IUD2042) and samples HAR-04_042011_01F and HAR-04_042011_03F (from SDG IUD2042) were identified as split samples. No metals were detected in any of the samples with the following exceptions:

Compound	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	HAR-04_042011_01	HAR-04_042011_03			
Arsenic	0.00041	0.00090U	75 (≤35)	NQ	-
Barium	0.027	0.025	8 (≤35)	-	-
Chromium	0.00050U	0.00099	66 (≤35)	NQ	-
Cobalt	0.000050	0.00010U	67 (≤35)	NQ	-
Nickel	0.00061	0.00050U	20 (≤35)	-	-
Vanadium	0.00092	0.00080U	14 (≤35)	-	-

Compound	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	HAR-04_042011_01F	HAR-04_042011_03F			
Antimony	0.000081	0.00030U	115 (≤35)	NQ	-
Arsenic	0.00043	0.00090U	71 (≤35)	NQ	-
Barium	0.026	0.028	7 (≤35)	-	-
Cobalt	0.000036	0.00010U	94 (≤35)	NQ	-
Copper	0.00056U	0.00067	18 (≤35)	-	-
Nickel	0.00044	0.00050U	13 (≤35)	-	-
Tin	0.00018	0.005U	186 (≤35)	NQ	-
Vanadium	0.00075	0.00083	10 (≤35)	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Data Qualification Summary - SDG 280-14865-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-14865-1	HAR-01_042011_01 HAR-03_042011_01 HAR-04_042011_01 HAR-16_042011_01 HAR-16_042011_36	Mercury	J (all detects) UJ (all non-detects)	P	Laboratory control samples (%R) (L)
280-14865-1	HAR-01_042011_01 HAR-03_042011_01 HAR-04_042011_01 HAR-16_042011_01 HAR-16_042011_36 HAR-01_042011_01F HAR-03_042011_01F HAR-04_042011_01F HAR-16_042011_01F HAR-16_042011_36F	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Laboratory Blank Data Qualification Summary - SDG 280-14865-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-14865-1	HAR-01_042011_01F	Tin	0.0017U mg/L	A	B
280-14865-1	HAR-03_042011_01F	Tin	0.0020U mg/L	A	B
280-14865-1	HAR-04_042011_01F	Tin	0.0018U mg/L	A	B
280-14865-1	HAR-16_042011_01F	Tin	0.0017U mg/L	A	B
280-14865-1	HAR-16_042011_36F	Tin	0.0017U mg/L	A	B
280-14865-1	HAR-03_042011_01	Tin	0.00045U mg/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Field Blank Data Qualification Summary - SDG 280-14865-1**

No Sample Data Qualified in this SDG

LDC #: 25468B4

VALIDATION COMPLETENESS WORKSHEET

Date: 5-18-11

SDG #: 280-14865-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: MG

2nd Reviewer: W

METHOD: Metals (EPA SW 846 Method 6010B/6020/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4-20-11
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	A	MS/MSD
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	SW	LCS/LCSD
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	not utilized
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	S = 3 + HAR-04_042011_03 } SDG:
XIII.	Overall Assessment of Data	A	S = 8 + HAR-04_042011_03F } IUD? 042
XIV.	Field Duplicates	SW	D = 4+5, D = 9+10
XV.	Field Blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

all water

1	HAR-01_042011_01	11	HAR-03_042011_01MS	21		31	
2	HAR-03_042011_01	12	HAR-03_042011_01MSD	22		32	
3	HAR-04_042011_01	13	HAR-16_042011_01MS	23		33	
4	HAR-16_042011_01	14	HAR-16_042011_01MSD	24		34	
5	HAR-16_042011_36	15	HAR-01_042011_01FMS	25		35	
6	HAR-01_042011_01F	16	HAR-01_042011_01FMSD	26		36	
7	HAR-03_042011_01F	17		27		37	
8	HAR-04_042011_01F	18		28		38	
9	HAR-16_042011_01F	19		29	PBW1	39	
10	HAR-16_042011_36F	20		30	PBW2	40	

Notes: Samples appended with "F" were analyzed for dissolved metals

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Soil preparation factor applied: NA

Associated Samples: 9, 10 (>5x)

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	No Qual's					
Na		0.102		0.51						

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Soil preparation factor applied: NA

Associated Samples: all dissolved Qual: U (B)

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	6	7	8	9	10
Sn		0.00156		0.0078	0.0017	0.0020	0.0018	0.0017	0.0017

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Soil preparation factor applied: NA

Associated Samples: all total Qual: U (B)

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	2
Ba		0.000379		0.001895	
Sn		0.00176		0.00088	0.00045

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note: a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: Metals (EPA Method 6010B/7000)

Y N NA
Y N NA

Were field duplicate pairs identified in this SDG?

Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	4	5		
Arsenic	0.00077	0.00074	4	
Barium	0.010	0.010	0	
Calcium	23	23	0	
Cobalt	0.000052	0.000040	26	
Iron	0.022U	0.057	89	No Qual.
Magnesium	4.9	4.9	0	
Manganese	0.00045	0.0010	76	No Qual.
Nickel	0.00073	0.0016	75	No Qual.
Potassium	0.72	0.73	1	
Sodium	51	51	0	
Strontium	0.11	0.11	0	
Vanadium	0.0016	0.0016	0	
Zinc	0.032	0.032	0	

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Analyte	Concentration (mg/L)		RPD (≤35)	
	9	10		
Arsenic	0.00073	0.00073	0	.
Barium	0.0098	0.0099	1	.
Calcium	23	23	0	

LDC#: 25468B4

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 2 of 2
 Reviewer: MG
 2nd Reviewer: [Signature]

METHOD: Metals (EPA Method 6010B/7000)

Y N NA
Y N NA

Were field duplicate pairs identified in this SDG?

Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	9	10		
Cobalt	0.000044	0.000047	7	.
Magnesium	5.1	5.1	0	.
Nickel	0.00065	0.00086	28	.
Potassium	0.74	0.75	1	.
Sodium	51	52	2	.
Strontium	0.11	0.11	0	.
Tin	0.0017	0.0017	0	.
Vanadium	0.0015	0.0014	7	.
Zinc	0.033	0.032	3	.

V:\FIELD DUPLICATES\FD_inorganic\25468B4.WPD

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: Metals (EPA Method 6010B/7000)

Y N NA
Y N NA

Were field duplicate pairs identified in this SDG?

Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	3	HAR-04_042011_03		
Arsenic	0.00041	0.00090U	75	no qual. <i>CSM</i>
Barium	0.027	0.025	8	
Chromium	0.00050U	0.00099	66	no qual. <i>CSM</i>
Cobalt	0.000050	0.00010U	67	no qual. <i>CSM</i>
Nickel	0.00061	0.00050U	20	
Vanadium	0.00092	0.00080U	14	

V:\FIELD DUPLICATES\FD_inorganic\25468B4b.WPD

Analyte	Concentration (mg/L)		RPD (≤35)	
	8	HAR-04_042011_03F		
Antimony	0.000081	0.00030U	115	no qual. <i>CSM</i>
Arsenic	0.00043	0.00090U	71	no qual. <i>CSM</i>
Barium	0.026	0.028	7	
Cobalt	0.000036	0.00010U	94	no qual. <i>CSM</i>
Copper	0.00056U	0.00067	18	
Nickel	0.00044	0.00050U	13	
Tin	0.00018	0.005U	186	no qual. <i>CSM</i>
Vanadium	0.00075	0.00083	10	

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**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: May 24, 2011

Matrix: Water

Parameters: Herbicides

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14865-1

Sample Identification

HAR-01_042011_01
HAR-03_042011_01
HAR-04_042011_01
HAR-16_042011_01
HAR-16_042011_36

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8151A for Herbicides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No herbicide contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/(Matrix Spike) Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D 280-64197/2,3-A (HAR-01_042011_01 HAR-03_042011_01 HAR-16_042011_01 HAR-16_042011_36 MB280-64197/1-A)	2,4-D	-	150 (15-140)	-	J (all detects)	P

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14865-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples HAR-16_042011_01 and HAR-16_042011_36 were identified as field duplicates. No herbicides were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-16_042011_01	HAR-16_042011_36			
2,4-D	4.0U	0.27	175 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Samples HAR-04_042011_01 and HAR-04_042011_03 (from SDG IUD2042) were identified as split samples. No herbicides were detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Data Qualification Summary - SDG 280-14865-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14865-1	HAR-01_042011_01 HAR-03_042011_01 HAR-16_042011_01 HAR-16_042011_36	2,4-D	J (all detects) UJ (all non-detects)	P	Laboratory control samples (RPD) (L)
280-14865-1	HAR-01_042011_01 HAR-03_042011_01 HAR-04_042011_01 HAR-16_042011_01 HAR-16_042011_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Laboratory Blank Data Qualification Summary - SDG 280-14865-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Field Blank Data Qualification Summary - SDG 280-14865-1**

No Sample Data Qualified in this SDG

LDC #: 25488B5

VALIDATION COMPLETENESS WORKSHEET

Date: 5/24/11

SDG #: 280-14865-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: NK2nd Reviewer: [Signature]

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	SW	ICS 13
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates / Split	SW	D = 4.5 S = 3 + HAR-09092011-03 (IND2842)
XIII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

X ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	HAR-01_042011_01	11	MB 280-69197 / 1-A	21	31
2	HAR-03_042011_01	12	MB 280-69413 / 1-A	22	32
3	HAR-04_042011_01	13		23	33
4	HAR-16_042011_01	14		24	34
5	HAR-16_042011_36	15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

Y N NA Were field duplicate pairs identified in this SDG?

Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤ 35) RPD	Qualifications (Parent only)
	4	5		
2,4-D	4.0U	0.27	175	NQ (<math>< 5 \times \text{RL}</math>)

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 20, 2011
LDC Report Date: May 20, 2011
Matrix: Water
Parameters: Wet Chemistry
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14865-1

Sample Identification

RD-52A_042011_01
RD-52B_042011_01
RD-52C_042011_01
WS-04A_042011_01
HAR-01_042011_01
HAR-03_042011_01
HAR-04_042011_01
HAR-16_042011_01
HAR-16_042011_36
RD-52A_042011_01DUP
HAR-01_042011_01MS
HAR-01_042011_01MSD
HAR-04_042011_01MS
HAR-04_042011_01MSD
HAR-16_042011_01DUP
HAR-16_042011_36MS
HAR-16_042011_36MSD
HAR-16_042011_36DUP

Introduction

This data review covers 18 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Standard Method 2320B for Alkalinity, EPA Method 350.1 for Ammonia as Nitrogen, EPA Method 300.0 for Chloride, Fluoride, Nitrate, and Sulfate, Standard Method 2510B for Conductivity, EPA SW 846 Method 9012A for Cyanide, EPA Method 314.0 for Perchlorate, EPA SW 846 Method 9040B for pH, Standard Method 4500-S2-D for Sulfide, Standard Method 2540C for Total Dissolved Solids, and EPA Method 180.1 for Turbidity.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

Raw data were not reviewed for this SDG. The review was based on QC data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
RD-52A_042011_01	pH	74.00 hours	48 hours	J (all detects) UJ (all non-detects)	P
RD-52B_042011_01	pH	69.00 hours	48 hours	J (all detects) UJ (all non-detects)	P
RD-52C_042011_01	pH	70.25 hours	48 hours	J (all detects) UJ (all non-detects)	P
WS-04A_042011_01	pH	68.25 hours	48 hours	J (all detects) UJ (all non-detects)	P
HAR-01_042011_01	pH	74.50 hours	48 hours	J (all detects) UJ (all non-detects)	P
HAR-03_042011_01	pH	72.75 hours	48 hours	J (all detects) UJ (all non-detects)	P
HAR-04_042011_01	pH	69.00 hours	48 hours	J (all detects) UJ (all non-detects)	P
HAR-16_042011_01 HAR-16_042011_36	pH	68.75 hours	48 hours	J (all detects) UJ (all non-detects)	P
RD-52A_042011_01DUP	pH	74.00 hours	48 hours	J (all detects) UJ (all non-detects)	P

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks.

No field duplicates were identified in this SDG.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-14865-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

Samples HAR-16_042011_01 and HAR-16_042011_36 were identified as field duplicates. No contaminant concentrations were detected in any of the samples with the following exceptions:

Analyte	Concentration		RPD (Limits)	Flag	A or P
	HAR-16_042011_01	HAR-16_042011_36			
Alkalinity	120 mg/L	120 mg/L	0 (≤35)	-	-
Fluoride	0.49 mg/L	0.50 mg/L	2 (≤35)	-	-
Chloride	22 mg/L	22 mg/L	0 (≤35)	-	-

Analyte	Concentration		RPD (Limits)	Flag	A or P
	HAR-16_042011_01	HAR-16_042011_36			
Nitrate	17 mg/L	17 mg/L	0 (≤35)	-	-
Sulfate	26 mg/L	26 mg/L	0 (≤35)	-	-
Total dissolved solids	260 mg/L	260 mg/L	0 (≤35)	-	-
Specific conductance	390 umhos/cm	370 umhos/cm	5 (≤35)	-	-
pH	6.81 units	6.88 units	1 (≤35)	-	-
Perchlorate	12 ug/L	12 ug/L	0 (≤35)	-	-

Samples HAR-04_042011_01 and HAR-04_042011_03 were identified as split samples. No contaminant concentrations were detected in any of the samples with the following exceptions:

Compound	Concentration		RPD (Limits)	Flag	A or P
	HAR-04_042011_01	HAR-04_042011_03			
Fluoride	0.88 mg/L	0.68 mg/L	26 (≤35)	-	-
Nitrate	5.9 mg/L	5.5 mg/L	7 (≤35)	-	-
Perchlorate	1.5 ug/L	1.9 ug/L	24 (≤35)	-	-
Sulfide	0.0070U mg/L	0.051 mg/L	152 (≤35)	NQ	-
pH	6.65 units	6.9 units	4 (≤35)	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-14865-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-14865-1	RD-52A_042011_01 RD-52B_042011_01 RD-52C_042011_01 WS-04A_042011_01 HAR-01_042011_01 HAR-03_042011_01 HAR-04_042011_01 HAR-16_042011_01 HAR-16_042011_36	pH	J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-14865-1	RD-52A_042011_01 RD-52B_042011_01 RD-52C_042011_01 WS-04A_042011_01 HAR-01_042011_01 HAR-03_042011_01 HAR-04_042011_01 HAR-16_042011_01 HAR-16_042011_36	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-14865-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-14865-1**

No Sample Data Qualified in this SDG

LDC #: 25468B6

VALIDATION COMPLETENESS WORKSHEET

Date: 5-18-11

SDG #: 280-14865-1

Level V

Page: 1 of 1

Laboratory: Test America Inc.

Reviewer: MG

2nd Reviewer: 

METHOD: (Analyte) Alkalinity (SM2320B), Ammonia-N (EPA Method 350.1), Chloride, Fluoride, Nitrate, Sulfate (EPA Method 300.0), Conductivity (SM2510B), Cyanide (EPA SW846 Method 9012A), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B), Sulfide (SM4500-S2 D), TDS (SM2540C), Turbidity (EPA Method 180.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: 4-20-11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IV.	Matrix Spike/Matrix Spike Duplicates	A	MS/MSD
V.	Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS/LCSD
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	SW	D=8+9, S=7+ HAR-04-042011-03
X.	Field blanks	N	(SDG: IUD2042)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinstate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

all water

1	RD-52A_042011_01	11	HAR-01_042011_01MS	21		31
2	RD-52B_042011_01	12	HAR-01_042011_01MSD	22		32
3	RD-52C_042011_01	13	HAR-04_042011_01MS	23		33
4	WS-04A_042011_01	14	HAR-04_042011_01MSD	24		34
5	HAR-01_042011_01	15	HAR-16_042011_01DUP	25		35
6	HAR-03_042011_01	16	HAR-16_042011_36MS	26		36
7	HAR-04_042011_01	17	HAR-16_042011_36MSD	27		37
8	HAR-16_042011_01	18	HAR-16_042011_36DUP	28		38
9	HAR-16_042011_36	19		29		39
10	RD-52A_042011_01DUP	20		30	PBW	40

Notes: _____

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Inorganics, Method See Cover

- Y N NA Were field duplicate pairs identified in this SDG?
- Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤ 35)	
	8	9		
Alkalinity	120	120	0	
Fluoride	0.49	0.50	2	
Chloride	22	22	0	
Nitrate	17	17	0	
Sulfate	26	26	0	
TDS	260	260	0	
Specific Conductance (umhos/cm)	390	370	5	
pH (pH units)	6.81	6.88	1	
Perchlorate (ug/L)	12	12	0	

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Inorganics, Method See Cover

- Y N NA Were field duplicate pairs identified in this SDG?
- Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	7	HAR-04_042011_03		
Fluoride	0.88	0.68	26	
Nitrate	5.9	5.5	7	
Perchlorate (ug/L)	1.5	1.9	24	
Sulfide	0.0070U	0.051	152	no qual. <u>CSW</u>
pH (pH units)	6.65	6.9	4	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 20, 2011
LDC Report Date: May 26, 2011
Matrix: Water
Parameters: Diesel Range Organics
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14865-1

Sample Identification

RD-52B_042011_01
RD-52C_042011_01
HAR-01_042011_01
HAR-03_042011_01
HAR-04_042011_01
HAR-16_042011_01
HAR-16_042011_36

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Diesel Range Organics.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No diesel range organic contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14865-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Samples RD-52A_042011_01 and WS-04A_042011_01 analyses were cancelled due to broken bottles received by laboratory.

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples HAR-16_042011_01 and HAR-16_042011_36 were identified as field duplicates. No diesel range organic contaminants were detected in any of the samples.

Samples HAR-04_042011_01 and HAR-04_042011_03 (from SDG IUD2042) were identified as split samples. No diesel range organic contaminants were detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Data Qualification Summary - SDG 280-14865-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14865-1	RD-52B_042011_01 RD-52C_042011_01 HAR-01_042011_01 HAR-03_042011_01 HAR-04_042011_01 HAR-16_042011_01 HAR-16_042011_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Laboratory Blank Data Qualification Summary - SDG 280-14865-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Field Blank Data Qualification Summary - SDG 280-14865-1**

No Sample Data Qualified in this SDG

LDC #: 25468B8
 SDG #: 280-14865-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/24/11
 Page: 1 of 1
 Reviewer: Me
 2nd Reviewer: Q

METHOD: GC Diesel Range Organics (Oklahoma Department of Environmental Quality)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	A	ICS 10
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	SW	Samples RD-52A_042011_01 and WS-04A_042011_01 bottles broken
XII.	Field duplicates / Split	ND	D = 6, 7 S = 5 + HAR-04_042011-03 (14D3042)
XIII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	RD-52B_042011_01	11	MB 280-63792/A-A	21	31
2	RD-52C_042011_01	12		22	32
3	HAR-01_042011_01	13		23	33
4	HAR-03_042011_01	14		24	34
5	HAR-04_042011_01	15		25	35
6	HAR-16_042011_01	16		26	36
7	HAR-16_042011_36	17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 20, 2011
LDC Report Date: May 24, 2011
Matrix: Water
Parameters: 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14865-1

Sample Identification

HAR-01_042011_01
TB_HAR-01_042011
HAR-03_042011_01
HAR-04_042011_01
HAR-16_042011_01
HAR-16_042011_36

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 504.1 for 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in the method blanks.

Sample TB_HAR-01_042011 was identified as a trip blank. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14865-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples HAR-16_042011_01 and HAR-16_042011_36 were identified as field duplicates. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was detected in any of the samples.

Samples HAR-04_042011_01 and HAR-04_042011_03 (from SDG IUD2042) were identified as split samples. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Data Qualification Summary -
 SDG 280-14865-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14865-1	HAR-01_042011_01 TB_HAR-01_042011 HAR-03_042011_01 HAR-04_042011_01 HAR-16_042011_01 HAR-16_042011_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Laboratory Blank Data
 Qualification Summary - SDG 280-14865-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Field Blank Data Qualification
 Summary - SDG 280-14865-1**

No Sample Data Qualified in this SDG

LDC #: 25468B10
 SDG #: 280-14865-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/24/11
 Page: 1 of 1
 Reviewer: Jle
 2nd Reviewer: Q

METHOD: GC 1,2-Dibromomethane & 1,2-Dibromo-3-chloropropane (EPA Method 504.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	LCS 10
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates / Split	ND	D = 5:6 S = 4 + HAR-04_042011_03
XIII.	Field blanks	ND	TB = 2 (IMD 2042)

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: *Water*

1	HAR-01_042011_01	11	MB 280-64315/4-A	21	31
2	TB_HAR-01_042011	12		22	32
3	HAR-03_042011_01	13		23	33
4	HAR-04_042011_01	14		24	34
5	HAR-16_042011_01 D	15		25	35
6	HAR-16_042011_36 D	16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: May 24, 2011

Matrix: Water

Parameters: Organophosphorus Pesticides

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14865-1

Sample Identification

HAR-01_042011_01
HAR-03_042011_01
HAR-04_042011_01
HAR-16_042011_01
HAR-16_042011_36

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8141A for Organophosphorus Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No organophosphorus pesticide contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG280-14865-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples HAR-16_042011_01 and HAR-16_042011_36 were identified as field duplicates. No organophosphorus pesticides were detected in any of the samples.

Samples HAR-04_042011_01 and HAR-04_042011_03 (from SDG IUD2042) were identified as split samples. No organophosphorus pesticides were detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Data Qualification Summary - SDG 280-14865-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14865-1	HAR-01_042011_01 HAR-03_042011_01 HAR-04_042011_01 HAR-16_042011_01 HAR-16_042011_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Laboratory Blank Data Qualification Summary - SDG 280-14865-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Field Blank Data Qualification Summary - SDG 280-14865-1**

No Sample Data Qualified in this SDG

METHOD: GC Organophosphorus Pesticides (EPA SW 846 Method 8141A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	A	LCS 1/2
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates / split	ND	D = 4.5 S = 3 + HAR-045042011-03
XIII.	Field blanks	N	(1UD2042)

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: *Water*

1	HAR-01_042011_01	11	MB 280-63749/1-A	21		31
2	HAR-03_042011_01	12		22		32
3	HAR-04_042011_01	13		23		33
4	HAR-16_042011_01	14		24		34
5	HAR-16_042011_36	15		25		35
6		16		26		36
7		17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: May 25, 2011

Matrix: Water

Parameters: Hexachlorophene

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14865-1

Sample Identification

HAR-01_042011_01
HAR-03_042011_01
HAR-04_042011_01
HAR-16_042011_01
HAR-16_042011_36
HAR-01_042011_01MS
HAR-01_042011_01MSD

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8321A for Hexachlorophene.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No hexachlorophene was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
HAR-01_042011_01MS/MSD (HAR-01_042011_01)	Hexachlorophene	41 (50-150)	40 (50-150)	-	J (all detects) UJ (all non-detects)	A

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG280-14865-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-16_042011_01 and HAR-16_042011_36 were identified as field duplicates. No hexachlorophene was detected in any of the samples.

Samples HAR-04_042011_01 and HAR-04_042011_03 (from SDG IUD2042) were identified as split samples. No hexachlorophene was detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Data Qualification Summary - SDG 280-14865-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14865-1	HAR-01_042011_01	Hexachlorophene	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R)(Q)
280-14865-1	HAR-01_042011_01 HAR-03_042011_01 HAR-04_042011_01 HAR-16_042011_01 HAR-16_042011_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Laboratory Blank Data Qualification Summary - SDG 280-14865-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Field Blank Data Qualification Summary - SDG 280-14865-1**

No Sample Data Qualified in this SDG

LDC #: 25468B44
 SDG #: 280-14865-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/24/11
 Page: 1 of 1
 Reviewer: Me
 2nd Reviewer: [Signature]

METHOD: LC/MS Hexachlorophene (EPA SW 846 Method 8321A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4 / 20 / 11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	A	LES
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / Split	ND	b = 4, 5 #S = 3 + HAR-04-042011-03 (1UD2092)
XVII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinstate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	HAR-01_042011_01	11	MB 280-63849/10	21	31
2	HAR-03_042011_01	12		22	32
3	HAR-04_042011_01	13		23	33
4	HAR-16_042011_01	14		24	34
5	HAR-16_042011_36	15		25	35
6	HAR-01_042011_01MS	16		26	36
7	HAR-01_042011_01MSD	17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: * The split lab analyzed sample by GC and MDL is 10x lower than the primary lab.

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Reviewer: JG
2nd Reviewer: CJ

LC/MS Hexachlorophene 8301A
METHOD: GC/MS-MS (EPA SW 846 Method 8270G)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

Was a MS/MSD analyzed every 20 samples of each matrix?
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	Date	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		6/7	Hexachlorophene 41	(56-150)	40 (50-150)	()	1	J/MS/A (8)

Compound	QC Limits (Soil)	RPD (Soil)	QC Limits (Water)	RPD (Water)	Compound	QC Limits (Soil)	RPD (Soil)	QC Limits (Water)	RPD (Water)
A. Phenol	26-90%	< 35%	12-110%	< 42%	Acenaphthene	31-137%	< 19%	46-118%	< 31%
C. 2-Chlorophenol	25-102%	< 50%	27-123%	< 40%	4-Nitrophenol	11-114%	< 50%	10-80%	< 50%
E. 1,4-Dichlorobenzene	28-104%	< 27%	36-97%	< 28%	2,4-Dinitrotoluene	28-89%	< 47%	24-96%	< 39%
J. N-Nitroso-di-n-propylamine	41-126%	< 38%	41-116%	< 38%	Pentachlorophenol	17-109%	< 47%	9-103%	< 50%
R. 1,2,4-Trichlorobenzene	38-107%	< 23%	39-98%	< 28%	Pyrene	35-142%	< 36%	26-127%	< 31%
V. 4-Chloro-3-methylphenol	26-103%	< 33%	23-97%	< 42%					

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: May 25, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14865-1/A1D210577

Sample Identification

RD-52A_042011_01
RD-52B_042011_01
WS-04A_042011_01
HAR-01_042011_01
HAR-03_042011_01
HAR-04_042011_01
HAR-16_042011_01
HAR-16_042011_36
RD-52A_042011_01MS
RD-52A_042011_01MSD

Introduction

This data review covers 10 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG280-14865-1/A1D210577	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

The analysis for sample RD-52C_042011_01 cancelled due to broken bottle.

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples HAR-16_042011_01 and HAR-16_042011_36 were identified as field duplicates. No formaldehyde was detected in any of the samples

Samples HAR-04_042011_01 and HAR-04_042011_03 (from SDG IUD2042) were identified as split samples. No formaldehyde was detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Data Qualification Summary - SDG 280-14865-1/A1D210577**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14865-1/ A1D210577	RD-52A_042011_01 RD-52B_042011_01 WS-04A_042011_01 HAR-01_042011_01 HAR-03_042011_01 HAR-04_042011_01 HAR-16_042011_01 HAR-16_042011_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-14865-1/A1D210577**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Field Blank Data Qualification Summary - SDG 280-14865-1/A1D210577**

No Sample Data Qualified in this SDG

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 9/20/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	A	
VII.	Laboratory control samples	A	ICS
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	SW	Sample RD-52C_042011_01 received broken, analysis cancelled (Text)
XII.	Field duplicates / Split	ND	D = 7, 8 S = 6 + HAR-04.042011_03 (14D2042)
XIII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	RD-52A_042011_01	11	1112027-MB	21	31
2	RD-52B_042011_01	12		22	32
3	WS-04A_042011_01	13		23	33
4	HAR-01_042011_01	14		24	34
5	HAR-03_042011_01	15		25	35
6	HAR-04_042011_01	16		26	36
7	HAR-16_042011_01	17		27	37
8	HAR-16_042011_36	18		28	38
9	RD-52A_042011_01MS	19		29	39
10	RD-52A_042011_01MSD	20		30	40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: May 25, 2011

Matrix: Water

Parameters: Hydrazines

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14865-1

Sample Identification

RD-52A_042011_01
RD-52B_042011_01
RD-52C_042011_01
WS-04A_042011_01
HAR-01_042011_01
HAR-03_042011_01
HAR-04_042011_01
HAR-16_042011_01
HAR-16_042011_36
HAR-16_042011_01MS
HAR-16_042011_01MSD

Introduction

This data review covers 11 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DVWC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazine contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound	Concentration	Associated Samples
MB 280-63799/25	4/22/11	1,1-Dimethylhydrazine	1.63 ug/L	All samples in SDG 280-14865-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
HAR-03_042011_01	1,1-Dimethylhydrazine	1.8 ug/L	10U ug/L

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14865-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples HAR-16_042011_01 and HAR-16_042011_36 were identified as field duplicates. No hydrazines were detected in any of the samples.

Samples HAR-04_042011_01 and HAR-04_042011_03 (from SDG IUD2042) were identified as split samples. No hydrazines were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-04_042011_01	HAR-04_042011_03			
Hydrazine	0.68	0.10U	149(≤35)	NQ	-
Monomethyl hydrazine	0.78	0.50U	44 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-14865-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14865-1	RD-52A_042011_01 RD-52B_042011_01 RD-52C_042011_01 WS-04A_042011_01 HAR-01_042011_01 HAR-03_042011_01 HAR-04_042011_01 HAR-16_042011_01 HAR-16_042011_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-14865-1**

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-14865-1	HAR-03_042011_01	1,1-Dimethylhydrazine	10U ug/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-14865-1**

No Sample Data Qualified in this SDG

LDC #: 25468B76

VALIDATION COMPLETENESS WORKSHEET

Date: 5/24/11

SDG #: 280-14865-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: *Me*2nd Reviewer: *✓*

METHOD: HPLC Hydrazines (Method DVWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	SW	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	A	
VII.	Laboratory control samples	A	LCS 1/1
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates / Split	SWB	*D = 8, 9 S = 7 + HAR-04_042011-03
XIII.	Field blanks	N	(IND 20+2)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

* ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	RD-52A_042011_01	11	HAR-16_042011_01MSD	21	31
2	RD-52B_042011_01	12		22	32
3	RD-52C_042011_01	13		23	33
4	WS-04A_042011_01	14		24	34
5	HAR-01_042011_01	15		25	35
6	HAR-03_042011_01	16		26	36
7	HAR-04_042011_01	17		27	37
8	HAR-16_042011_01 <i>b</i>	18		28	38
9	HAR-16_042011_36 <i>D</i>	19		29	39
10	HAR-16_042011_01MS	20		30	40

Notes: _____

VALIDATION FINDINGS WORKSHEET

Blanks

METHOD: GC HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- Y N N/A Were all samples associated with a given method blank?
- Y N N/A Was a method blank performed for each matrix and whenever a sample extraction procedure was performed?
- Y N N/A Was a method blank performed with each extraction batch?
- Y N N/A Were any contaminants found in the method blanks? If yes, please see findings below.

Level I/ID Only

- Y N N/A (Gasoline and aromatics only) Was a method blank analyzed with each 24 hour batch?
- Y N N/A Was a method blank analyzed for each analytical / extraction batch of ≤20 samples?

Blank extraction date: NA Blank analysis date: 4/22/11 Associated samples: All Code: B
 Conc. units: ug/L

Compound	Blank ID	Sample Identification
	<u>MB280-63799</u>	<u>6</u>
<u>B</u>	<u>1.63</u>	<u>1.8/10U</u>

Blank extraction date: _____ Blank analysis date: _____
 Conc. units: _____ Associated samples: _____

Compound	Blank ID	Sample Identification

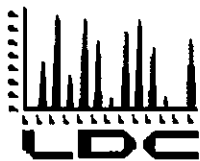
ALL CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 All contaminants within five times the method blank concentration were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Split

METHOD: HPLC Hydrazines (EPA SW 846 Method 8315M/Method DVWC-0077)

Y N NA Were field split pairs identified in this SDG?
Y N NA Were target analytes detected in the field split pairs?

Compound	Concentration (ug/L)		(<35) RPD	Qualifications (Parent only)
	HAR-04_042011_01	HAR-04_042011_03		
Hydrazine	0.68	0.10U	149	NQ (<5xRL)
Monomethyl hydrazine	0.78	0.50U	44	NQ (<5xRL)



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

June 9, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

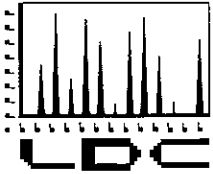
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 12, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25468:

<u>SDG #</u>	<u>Fraction</u>
280-14817//IUD2255/ A1D200567, 280-14865-1//IUD2257/ A1D210577, 280-14927-1//IUD2311/ A1D220525	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Pentachlorophenol, N- Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, 1,2- Dibromoethane & 1,2-Dibromo-3-chloropropane, Organophosphorus Pesticides, Hexachloroethane, Formaldehyde, Hydrazine
280-14865-2	N-Nitrosodimethylamine, Perchlorate
280-15011-2	N-Nitrosodimethylamine

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004



- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

Client Select IV LDC #25468 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane (8260B-S)		1,2,3-TCP (524.2)		SVOA (8270C)		SVOA (8270C-SIM)		PCP (8270C-LL)		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (OK-DEQ)		EDB (504.1)		Formaldehyde (8315)		Hexachlorophene (8321A)		OPHS Pest. (8141A)		Herbs (8151A)					
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S				
Matrix: Water/Soil																																									
A	280-14817/ IUD2255/ A1D200567	05/12/11	06/03/11	6	0	6	0	3	0	4	0	-	-	2	0	4	0	2	0	2	0	2	0	3	0	3	0	4	0	3	0	4	0	2	0	2	0	2	0		
B	280-14865-1/ IUD2257/ A1D210577	05/12/11	06/03/11	11	0	11	0	9	0	7	0	-	-	5	0	9	0	5	0	5	0	5	0	5	0	7	0	6	0	8	0	5	0	5	0	5	0	5	0		
C	280-14865-2	05/12/11	06/03/11	-	-	-	-	-	-	-	-	-	-	-	-	3	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
D	280-14927-1/ IUD2311/ A1D220525	05/12/11	06/03/11	11	0	11	0	3	0	8	0	2	0	-	-	8	0	-	-	4	0	-	-	4	0	9	0	-	6	0	-	-	-	-	-	-	-	-	-	-	-
E	280-15011-2	05/12/11	06/03/11	-	-	-	-	-	-	-	-	-	-	-	-	6	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total				28	0	28	0	15	0	19	0	2	0	2	0	7	0	30	0	7	0	11	0	8	0	12	0	20	0	9	0	18	0	7	0	7	0	7	0	7	239

Client Select IV LDC #25468 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydrazine (DVWC)		CLO ₂ (6960)		Alk. (2320B)		NH ₃ -N (350.1)		Cl SO ₄ (300.0)		Br NO ₂ O-PO ₄		F NO ₃ (300.0)		CN- (9012A)		Cond. (2510B)		Cr(VI) & Diss. Cr(VI)		CLO ₂ (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)		S= (4500-S2 D)				
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	
Matrix: Water/Soil																																								
A	280-14817-1	05/12/11	06/03/11	4	0	2	0	2	0	-	-	2	0	4	0	2	0	-	-	4	0	2	0	2	0	2	0	-	4	0	4	0	2	0	2	0	2	0	2	0
B	280-14865-1	05/12/11	06/03/11	9	0	8	0	8	0	-	-	2	0	9	0	2	0	-	-	9	0	5	0	2	0	2	0	-	9	0	9	0	2	0	2	0	2	0	5	0
C	280-14865-2	05/12/11	06/03/11	-	-	-	-	-	-	5	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D	280-14927-1	05/12/11	06/03/11	5	0	5	0	7	0	-	-	-	-	4	0	2	0	2	0	2	0	6	0	-	-	2	0	4	0	4	0	4	0	-	-	-	-	-	-	
Total				18	0	15	0	17	0	5	0	4	0	17	0	6	0	2	0	19	0	7	0	4	0	4	0	17	0	17	0	4	0	4	0	4	0	7	165	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: May 24, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14865-2

Sample Identification

HAR-01_042011_36

FB_HAR-01_042011_19

FB_HAR-16_042011_19

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-nitrosodimethylamine was found in the method blanks.

Samples FB_HAR-01_042011_19 and FB_HAR-16_042011_19 were identified as field blanks. No N-nitrosodimethylamine was found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14865-2	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-01_042011_01 (from SDG 280-14865-1) and HAR-01_042011_36 were identified as field duplicates. No N-nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-01_042011_01	HAR-01_042011_36			
N-Nitrosodimethylamine	0.017	0.018	6 (≤35)	-	-

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-14865-2**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14865-2	HAR-01_042011_36 FB_HAR-01_042011_19 FB_HAR-16_042011_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary – SDG 280-14865-2**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-14865-2**

No Sample Data Qualified in this SDG

LDC #: 25468C2b
 SDG #: 280-14865-2
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/24/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 5/20/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS 1B
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D = 1 + HAR-01-042011-01 (280-14865-1)
XVII.	Field blanks	ND	PB = 2 3

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: Water

1	HAR-01_042011_36	11	MB 280-63758/1-A	21	31
2	FB HAR-01_042011_19	12	MB 280-63785/1-A	22	32
3	FB HAR-16_042011_19	13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GCMS NDMA (EPA Method 1625M)

Y/N NA Were field duplicate pairs identified in this SDG?
Y/N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent Only)
	HAR-01_042011_01	HAR-01_042011_36		
NDMA	0.017	0.018	6	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: May 24, 2011

Matrix: Water

Parameters: Perchlorate

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14865-2

Sample Identification

HAR-01_042011_01

HAR-03_042011_01

HAR-04_042011_01

HAR-16_042011_01

HAR-16_042011_36

HAR-03_042011_01MS

HAR-03_042011_01MSD

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW846 Method 6860 for Perchlorate.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No perchlorate was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14865-2	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-16_042011_01 and HAR-16_042011_36 were identified as field duplicates. No perchlorate was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-16_042011_01	HAR-16_042011_36			
Perchlorate	12	12	0 (≤35)	-	-

Samples HAR-04_042011_01 and HAR-04_042011_03 (from SDG IUD2042) were identified as split samples. No perchlorate was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-04_042011_01	HAR-04_042011_03			
Perchlorate	1.5	1.5	0 (≤35)	-	-

**Boeing SSFL GW 1st Qtr, 2011
 Perchlorate - Data Qualification Summary - SDG 280-14865-2**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14865-2	HAR-01_042011_01 HAR-03_042011_01 HAR-04_042011_01 HAR-16_042011_01 HAR-16_042011_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 1st Qtr, 2011
 Perchlorate - Laboratory Blank Data Qualification Summary - SDG 280-14865-2**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 1st Qtr, 2011
 Perchlorate - Field Blank Data Qualification Summary - SDG 280-14865-2**

No Sample Data Qualified in this SDG

LDC #: 25468C87 **VALIDATION COMPLETENESS WORKSHEET**

SDG #: 280-14865-2

Level V

Laboratory: Test America, Inc.

Date: 5/24/11

Page: 1 of 1

Reviewer: JVG

2nd Reviewer: [Signature]

METHOD: LC/MS Perchlorate (EPA SW846 Method 6860)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / Split	SW	D = 4, 5 S = 3 + HAR_04_042011_03
XVII.	Field blanks	N	(TUB 204r)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

WATER

1	HAR-01_042011_01	11	MB 280-64876/4	21	31
2	HAR-03_042011_01	12	MB 280-65080/4	22	32
3	HAR-04_042011_01	13		23	33
4	HAR-16_042011_01	14		24	34
5	HAR-16_042011_36	15		25	35
6	HAR-03_042011_01MS	16		26	36
7	HAR-03_042011_01MSD	17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: LCMS Perchlorate (EPA SW 846 Method 6860)

- Y ~~N~~ ~~NA~~ Were field duplicate pairs identified in this SDG?
- Y ~~N~~ ~~NA~~ Were target analytes detected in the field duplicate pairs?

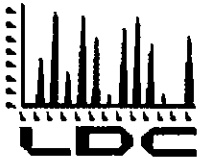
Compound	Concentration (ug/L)		RPD	Qualifications (Parent Only)
	HAR-16_042011_01	HAR-16_042011_36		
Perchlorate	12	12	0	

VALIDATION FINDINGS WORKSHEET
Field Split

METHOD: LC MS Perchlorate (EPA SW 846 Method 6860)

- ~~Y~~ ~~N~~ ~~NA~~ Were field split pairs identified in this SDG?
- ~~Y~~ ~~N~~ ~~NA~~ Were target analytes detected in the field split pairs?

Compound	Concentration (ug/L)		(≤ 35)	Qualifications
	HAR-04_042011_01	HAR-04_042011_03	RPD	(Parent only)
Perchlorate	1.5	1.5	0	



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

June 9, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

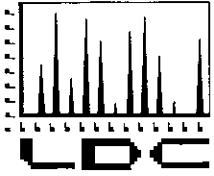
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 12, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25468:

<u>SDG #</u>	<u>Fraction</u>
280-14817//IUD2255/ A1D200567, 280-14865-1//IUD2257/ A1D210577, 280-14927-1//IUD2311/ A1D220525	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Pentachlorophenol, N- Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, 1,2- Dibromoethane & 1,2-Dibromo-3-chloropropane, Organophosphorus Pesticides, Hexachloroethane, Formaldehyde, Hydrazine
280-14865-2	N-Nitrosodimethylamine, Perchlorate
280-15011-2	N-Nitrosodimethylamine

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004



- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

Client Select IV LDC #25468 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane (8260B-S)		1,2,3-TCP (524.2)		SVOA (8270C -SIM)		PCP (8270C -LL)		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (OK-DEQ)		EDB (504.1)		Formaldehyde (8315)		Hexachlorophene (8321A)		OPHS Pest. (8141A)		Herbs (8151A)			
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S		
Matrix: Water/Soil																																					
A	280-14817/ IUD2255/ A1D200567	05/12/11	06/03/11	6	0	6	0	3	0	4	0	2	0	4	0	2	0	2	0	3	0	3	0	4	0	3	0	4	0	2	0	2	0	2	0	2	0
B	280-14865-1/ IUD2257/ A1D210577	05/12/11	06/03/11	11	0	11	0	9	0	7	0	5	0	9	0	5	0	5	0	5	0	5	0	7	0	6	0	8	0	5	0	5	0	5	0	5	0
C	280-14865-2	05/12/11	06/03/11	-	-	-	-	-	-	-	-	-	-	3	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D	280-14927-1/ IUD2311/ A1D220525	05/12/11	06/03/11	11	0	11	0	3	0	8	0	2	0	8	0	4	0	4	0	4	0	9	0	4	0	6	0	6	0	-	-	-	-	-	-	-	-
E	280-15011-2	05/12/11	06/03/11	-	-	-	-	-	-	-	-	-	-	6	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total				28	0	28	0	15	0	19	0	2	0	7	0	30	0	7	0	11	0	8	0	12	0	20	0	9	0	18	0	7	0	7	0	7	239

Client Select IV LDC #25468 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydrazine (DVWC)		CLO ₄ (6860)		Alk. (2320B)		NH ₃ -N (350.1)		Cl SO ₄ (300.0)		Br NO ₂ O-PO ₄		F NO ₃ (300.0)		CN- (9012A)		Cond. (2510B)		Cr(VI) & Diss. Cr(VI)		CLO ₄ (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)		S= (4500 -S2 D)			
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
Matrix: Water/Soil																																							
A	280-14817-1	05/12/11	06/03/11	4	0	2	0	2	0	-	-	2	0	4	0	2	0	-	-	4	0	4	0	2	0	2	0	-	-	4	0	2	0	2	0	2	0	2	0
B	280-14865-1	05/12/11	06/03/11	9	0	8	0	8	0	-	-	2	0	9	0	2	0	-	-	9	0	5	0	2	0	2	0	-	-	9	0	2	0	2	0	2	0	2	0
C	280-14865-2	05/12/11	06/03/11	-	-	-	-	-	-	5	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
D	280-14927-1	05/12/11	06/03/11	5	0	5	0	7	0	-	-	-	4	0	2	0	2	0	2	0	6	0	-	-	2	0	4	0	4	0	4	0	4	0	4	0	4	0	
Total				18	0	15	0	17	0	5	0	4	0	17	0	6	0	2	0	19	0	7	0	4	0	4	0	2	0	17	0	17	0	4	0	4	0	7	169

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 21, 2011

LDC Report Date: May 25, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14927-1

Sample Identification

PZ-154_042111_01
EB_PZ-154_042111
TB_PZ-154_042111
RD-01_042111_01
RS-07_042111_01
TB_RS-07_042111
RD-46A_042111_01
RD-46B_042111_01
PZ-140_042111_01
EB_PZ-140_042111
TB_PZ-140_042111
PZ-154_042111_01MS
PZ-154_042111_01MSD

Introduction

This data review covers 13 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Samples TB_PZ-154_042111, TB_RS-07_042111, and TB_PZ-140_042111 were identified as trip blanks. No volatile contaminants were found in these blanks.

Samples EB_PZ-154_042111, EB_PZ-140_042111, and EB_SH-04_040711 (from SDG 280-14379-1) were identified as equipment blanks. No volatile contaminants were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-154_042111	4/21/11	Chloroform	0.65 ug/L	PZ-154_042111_01
EB_PZ-140_042111	4/21/10	Chloroform	0.47 ug/L	PZ-140_042111_01

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No volatile contaminants were found in this blank.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-140_042111_01	Chloroform	0.17 ug/L	1.0U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
PZ-154_042111_01	Toluene-d8	112 (88-110)	Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects) J (all detects) J (all detects)	A
PZ-154_042111_01	1,2-Dichloroethane-d4	74 (80-120)	cis-1,2-Dichloroethene Trichloroethene	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A
PZ-154_042111_01	1,2-Dichloroethane-d4	71 (80-120)	All TCL compounds except Acrolein Acrylonitrile 2-Chloroethylvinyl ether cis-1,2-Dichloroethene Trichloroethene	J (all detects) UJ (all non-detects)	A
EB_PZ-154_042111	1,2-Dichloroethane-d4 Toluene-d8	121 (80-120) 114 (88-110)	Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects) J (all detects) J (all detects)	A
EB_PZ-154_042111	1,2-Dichloroethane-d4	79 (80-120)	All TCL compounds except Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects) UJ (all non-detects)	A
TB_PZ-154_042111	1,2-Dichloroethane-d4	72 (80-120)	All TCL compounds except Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects) UJ (all non-detects)	A
RD-01_042111_01	1,2-Dichloroethane-d4	73 (80-120)	All TCL compounds except cis-1,2-Dichloroethene Trichloroethene	J (all detects) UJ (all non-detects)	A
RD-01_042111_01	1,2-Dichloroethane-d4	79 (80-120)	cis-1,2-Dichloroethene Trichloroethene	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A
TB_RS-07_042111	1,2-Dichloroethane-d4	74 (80-120)	All TCL compounds	J (all detects) UJ (all non-detects)	A

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
RD-46A_042111_01	1,2-Dichloroethane-d4	78 (80-120)	Trichloroethene	J (all detects) UJ (all non-detects)	A
RD-46A_042111_01	1,2-Dichloroethane-d4	76 (80-120)	All TCL compounds except Trichloroethene	J (all detects) UJ (all non-detects)	A
RD-46B_042111_01	1,2-Dichloroethane-d4	77 (80-120)	All TCL compounds	J (all detects) UJ (all non-detects)	A
PZ-140_042111_01	1,2-Dichloroethane-d4 Toluene-d8 Bromofluorobenzene	129 (80-120) 119 (88-110) 118 (86-115)	Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects) J (all detects) J (all detects)	A
PZ-140_042111_01	Toluene-d8	111 (88-110)	Trichloroethene	J (all detects)	A
EB_PZ-140_042111	1,2-Dichloroethane-d4	75 (80-120)	All TCL compounds except Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects) UJ (all non-detects)	A
TB_PZ-140_042111	1,2-Dichloroethane-d4 Toluene-d8	126 (80-120) 113 (88-110)	Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects) J (all detects) J (all detects)	A
TB_PZ-140_042111	1,2-Dichloroethane-d4 Dibromofluoromethane	152 (80-120) 123 (86-118)	All TCL compounds except Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects)	A
MB 280-63793/5	1,2-Dichloroethane-d4	124 (80-120)	All TCL compounds	J (all detects)	P
MB 280-65616/6	1,2-Dichloroethane-d4	71 (80-120)	All TCL compounds	J (all detects) UJ (all non-detects)	P
MB 280-63793/4	1,2-Dichloroethane-d4	127 (80-120)	All TCL compounds	J (all detects)	P

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D 280-65616/4,5 (PZ-154_042111_01 EB_PZ-154_042111 TB_PZ-154_042111 PZ-140_042111_01 EB_PZ-140_042111 MB 280-65616/6)	2-Hexanone 4-Methyl-2-pentanone	124 (57-121) 122 (65-120)	133 (57-121) 131 (65-120)	- -	J (all detects) J (all detects)	P
LCS/D 280-65616/4,5 (PZ-154_042111_01 EB_PZ-154_042111 TB_PZ-154_042111 RD-01_042111_01 RS-07_042111_01 TB_RS-07_042111 RD-46A_042111_01 RD-46B_042111_01 PZ-140_042111_01 EB_PZ-140_042111 MB 280-65616/6)	Methyl ethyl ketone	124 (57-120)	135 (57-120)	-	J (all detects)	P
LCS/D 280-65630/5,10 (TB_PZ-140_042111 MB 280-65630/6)	Benzene Methyl-tert-butyl ether	- -	75 (77-120) 54 (58-120)	- 23 (≤21)	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14927-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Samples PZ-140_042111_01 and PZ-140_042111_03 (from SDG IUD2221) were identified as split samples. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	PZ-140_042111_01	PZ-140_042111_03			
Benzene	0.36	0.34	6 (≤35)	-	-
Chloroform	0.17	1.0U	142 (≤35)	NQ	-
cis-1,2-Dichloroethene	7.1	7.3	3 (≤35)	-	-
Trichloroethene	130	140	7 (≤35)	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-14927-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14927-1	PZ-154_042111_01 EB_PZ-154_042111 PZ-140_042111_01 TB_PZ-140_042111	Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects) J (all detects) J (all detects)	A	Surrogate spikes (%R) (S)
280-14927-1	PZ-154_042111_01 RD-01_042111_01	cis-1,2-Dichloroethene Trichloroethene	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A	Surrogate spikes (%R) (S)
280-14927-1	PZ-154_042111_01	All TCL compounds except Acrolein Acrylonitrile 2-Chloroethylvinyl ether cis-1,2-Dichloroethene Trichloroethene	J (all detects) UJ (all non-detects)	A	Surrogate spikes (%R) (S)
280-14927-1	EB_PZ-154_042111 TB_PZ-154_042111 EB_PZ-140_042111	All TCL compounds except Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects) UJ (all non-detects)	A	Surrogate spikes (%R) (S)
280-14927-1	RD-01_042111_01	All TCL compounds except cis-1,2-Dichloroethene Trichloroethene	J (all detects) UJ (all non-detects)	A	Surrogate spikes (%R) (S)
280-14927-1	TB_RS-07_042111 RD-46B_042111_01	All TCL compounds	J (all detects) UJ (all non-detects)	A	Surrogate spikes (%R) (S)
280-14927-1	RD-46A_042111_01	Trichloroethene	J (all detects) UJ (all non-detects)	A	Surrogate spikes (%R) (S)
280-14927-1	RD-46A_042111_01	All TCL compounds except Trichloroethene	J (all detects) UJ (all non-detects)	A	Surrogate spikes (%R) (S)
280-14927-1	PZ-140_042111_01	Trichloroethene	J (all detects)	A	Surrogate spikes (%R) (S)
280-14927-1	TB_PZ-140_042111	All TCL compounds except Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects)	A	Surrogate spikes (%R) (S)
280-14927-1	PZ-154_042111_01 EB_PZ-154_042111 TB_PZ-154_042111 PZ-140_042111_01 EB_PZ-140_042111	2-Hexanone 4-Methyl-2-pentanone	J (all detects) J (all detects)	P	Laboratory control samples (%R) (L)

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14927-1	PZ-154_042111_01 EB_PZ-154_042111 TB_PZ-154_042111 RD-01_042111_01 RS-07_042111_01 TB_RS-07_042111 RD-46A_042111_01 RD-46B_042111_01 PZ-140_042111_01 EB_PZ-140_042111	Methyl ethyl ketone	J (all detects)	P	Laboratory control samples (%R) (L)
280-14927-1	TB_PZ-140_042111	Benzene	J (all detects) UJ (all non-detects)	P	Laboratory control samples (%R) (L)
280-14927-1	TB_PZ-140_042111	Methyl-tert-butyl ether	J (all detects) UJ (all non-detects)	P	Laboratory control samples (%R) (RPD) (L,E)
280-14927-1	PZ-154_042111_01 EB_PZ-154_042111 TB_PZ-154_042111 RD-01_042111_01 RS-07_042111_01 TB_RS-07_042111 RD-46A_042111_01 RD-46B_042111_01 PZ-140_042111_01 EB_PZ-140_042111 TB_PZ-140_042111	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011

Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-14927-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011

Volatiles - Field Blank Data Qualification Summary - SDG 280-14927-1

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-14927-1	PZ-140_042111_01	Chloroform	1.0U ug/L	A	F

LDC #: 25468D1a
 SDG #: 280-14927-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/24/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/21/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	SW	LCS / D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / Split	SW	S = 9 + PZ-140-042111-03 (TUB2221)
XVII.	Field blanks	SW	EB = 2 10 TB* = 3, 6, 1 *TB = FB_041411-19

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 *ND = No compounds detected
 R = Rinsate
 FB = Field blank
 *EB = EB_SH-04-040711 (280-1437A-1) (280-146JT-1)
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

WATER

1	PZ-154_042111_01	11	TB_PZ-140_042111	21	MB 280-63793/5	31	(FFF, 6666, II)
2	EB PZ-154_042111	12	PZ-154_042111_01MS	22	MB 280-65616/6	32	
3	TB_PZ-154_042111	13	PZ-154_042111_01MSD	23	MB 280-65630/6	33	
4	RD-01_042111_01	14		24		34	
5	RS-07_042111_01	15		25		35	
6	TB_RS-07_042111	16		26		36	
7	RD-46A_042111_01	17		27		37	
8	RD-46B_042111_01	18		28		38	
9	PZ-140_042111_01 S	19		29		39	
10	EB_PZ-140_042111	20		30		40	

8260 STA W = 1, 3, 9, 10
 STA W + IPA = 3, 11
 VOCs + IPA = 4-8

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC. 1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl chloride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone (MIBK)	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methylacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBB. tert-Amyl methyl ether	VVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

Reviewer: MC
 2nd Reviewer: [Signature]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were all surrogate %R within QC limits?

Y N N/A If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R out of outside of criteria?

#	Date	Sample ID	Surrogate	%Recovery (I limits)	Qualifications
(short list)		1	TOL	112 (88-110)	J/dets/A (qual FFFF, 6666, II only)
DL		1	DCE	74 (80-120)	J/MS/A (qual 888, S only)
(long list)		1	DCE	71	(qual all except FFFF, 6666, II, 888, S)
		2	DCE	121	J/dets/A (qual FFFF, 6666, II only)
			TOL	114 (88-110)	J/dets/A (qual FFFF, 6666, II only)
		2	DCE	79 (80-120)	J/MS/A (all except FFFF, 6666, II)
		3	DCE	72	
		4	DCE	73	(all except 888, S)
DL		4	DCE	79	(qual 888, S only)
		6	DCE	74	(all TCL)
DL		7	DCE	78	(qual S only)

QC Limits (Water)

- 85-120
- 75-120
- 70-120
- 85-115

QC Limits (Soil)

- 85-115
- 85-120
- 60-120
- 75-125

- SMC1 (TOL) = Toluene-d8
- SMC2 (BFB) = Bromofluorobenzene
- SMC3 (DCE) = 1,2-Dichloroethane-d4
- SMC4 (DFM) = Dibromofluoromethane

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were all surrogate %R within QC limits?

Y N N/A if the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R out of outside of criteria? (S)

#	Date	Sample ID	Surrogate	%Recovery (I limits)	Qualifications
		7	DCE	76 (80-120)	J/MJ/A (qual all except S)
		8		77 ()	(all TOL)
		9	↓ TOL	129 () 119 (88-110)	J/dets/A (qual FFFF, 6666, II)
		9	BFB	118 (86-115)	
		9	TOL	111 (88-110)	(qual S only)
		10	DCE	75 (80-120)	J/MJ/A (all except FFFF, 6666, II)
		11	DCE	126 ()	J/dets/A (qual FFFF, 6666, II)
		11	TOL	113 (88-110)	
		11	DCE	152 (80-120)	(all except FFFF, 6666, II)
			DFM	123 (86-118)	
		MB 280-62793/5	DCE	124 (80-120)	J/dets/P (all TOL)
		MB 280-65616/6	DCE	71 ()	J/MJ/P
		MB 280-62793/A	DCE	127 ()	J/dets/P

QC Limits (Water)
85-120
75-120
70-120
85-115

QC Limits (Soil)
85-115
85-120
60-120
75-125

SMC1 (TOL) = Toluene-d8
SMC2 (BFB) = Bromofluorobenzene
SMC3 (DCE) = 1,2-Dichloroethane-d4
SMC4 (DFM) = Dibromofluoromethane

VALIDATION FINDINGS WORKSHEET
Field Split

METHOD: GC MS VOA (EPA SW 846 Method 8260B)

Y/N NA Were field split pairs identified in this SDG?

Y/N NA Were target analytes detected in the field split pairs?

Compound	Concentration (ug/L)		(≤35) RPD	Qualifications (Parent only)
	PZ-140_042111_01	PZ-140_042111_03		
Benzene	0.36	0.34	6	
Chloroform	0.17	1.0U	142	NQ(<5XRL)
Cis-1,2-Dichloroethene	7.1	7.3	3	
Trichloroethene	130	140	7	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 21, 2011

LDC Report Date: May 25, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14927-1

Sample Identification

PZ-154_042111_01
EB_PZ-154_042111
TB_PZ-154_042111
RD-01_042111_01
RS-07_042111_01
TB_RS-07_042111
RD-46A_042111_01
RD-46B_042111_01
PZ-140_042111_01
EB_PZ-140_042111
TB_PZ-140_042111

Introduction

This data review covers 11 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-dioxane was found in the method blanks.

Samples TB_PZ-154_042111, TB_RS-07_042111, and TB_PZ-140_042111 were identified as trip blanks. No 1,4-dioxane was found in these blanks.

Samples EB_PZ-154_042111, EB_PZ-140_042111, and EB_SH-04_040711 (from SDG 280-14379-1) were identified as equipment blanks. No 1,4-dioxane was found in these blanks.

Sample FB_041911_19 from SDG 280-14655-1) was identified as a field blank. No 1,4-dioxane was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14927-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Samples PZ-140_042111_01 and PZ-140_042111_03 (from SDG IUD2221) were identified as split samples. No 1,4-dioxane was detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-14927-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14927-1	PZ-154_042111_01 EB_PZ-154_042111 TB_PZ-154_042111 RD-01_042111_01 RS-07_042111_01 TB_RS-07_042111 RD-46A_042111_01 RD-46B_042111_01 PZ-140_042111_01 EB_PZ-140_042111 TB_PZ-140_042111	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-14927-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-14927-1**

No Sample Data Qualified in this SDG

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/21/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	ICV / D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / split	ND	S = 9 + PZ-140-042111-03 (1UD222)
XVII.	Field blanks	ND	EB = 2, 10 TB = 3, 6, 10 FB = FB_041911-19 EB = EB_SH-04-040711 (280-14379-1) (280-14655-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

+	1	PZ-154_042111_01	11	TB_PZ-140_042111	21	MB 280-64942/12	31
-	2	EB_PZ-154_042111	12		22	MB 280-64986/5	32
-	3	TB_PZ-154_042111	13		23	NIB 280-64990/26	33
+	4	RD-01_042111_01	14		24		34
-	5	RS-07_042111_01	15		25		35
-	6	TB_RS-07_042111	16		26		36
+	7	RD-46A_042111_01	17		27		37
-	8	RD-48B_042111_01	18		28		38
+	9	PZ-140_042111_01	19		29		39
-	10	EB_PZ-140_042111	20		30		40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 21, 2011

LDC Report Date: May 25, 2011

Matrix: Water

Parameters: 1,2,3-Trichloropropane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14927-1/UD2311

Sample Identification

RS-07_042111_01
RD-46A_042111_01
RD-46B_042111_01

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-trichloropropane was found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No 1,2,3-trichloropropane was found in this blank.

Sample FB_041911_19 (from SDG 280-14655-1) was identified as a field blank. No 1,2,3-trichloropropane was found in this blank.

VI. Surrogate Spikes

Surrogate spikes were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Raw data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14927-1/IUD2311	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011

1,2,3-Trichloropropane - Data Qualification Summary - SDG 280-14927-1/IUD2311

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14927-1/IUD2311	RS-07_042111_01 RD-46A_042111_01 RD-46B_042111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011

1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG 280-14927-1/IUD2311

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011

1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG 280-14927-1/IUD2311

No Sample Data Qualified in this SDG

LDC #: 25468D1c **VALIDATION COMPLETENESS WORKSHEET**

SDG #: 280-14927-1/IUD2311

Level V

Laboratory: Test America, Inc.

Date: 5/24/11

Page: 1 of 1

Reviewer: *IV*

2nd Reviewer: *(Y)*

METHOD: GC/MS 1,2,3-Trichloropropane (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/21/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	FB = FB_041411_19 (280-1465-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

EB = EB_SH-04_040711 (280-14379-1)
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: *Water*

1	RS-07_042111_01	11	11 D3240-BIK1	21	31
2	RD-46A_042111_01	12		22	32
3	RD-46B_042111_01	13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 21, 2011

LDC Report Date: May 25, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14927-1

Sample Identification

PZ-154_042111_01
EB_PZ-154_042111
RD-01_042111_01
RS-07_042111_01
RD-46A_042111_01
RD-46B_042111_01
PZ-140_042111_01
EB_PZ-140_042111

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks

Samples EB_PZ-154_042111, EB_PZ-140_042111, and EB_SH-04_040711 (from SDG 280-14379-1) were identified as equipment blanks. No semivolatile contaminants were found in these blanks.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No semivolatile contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D 280-63733/2,3-A (PZ-154_042111_01 EB_PZ-154_042111 PZ-140_042111_01 EB_PZ-140_042111 MB 280-63733/1-A)	Hexachlorocyclopentadiene	6 (10-120)	-	-	J (all detects) R (all non-detects)	P

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14927-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Samples PZ-140_042111_01 and PZ-140_042111_03 (from SDG IUD2221) were identified as split samples. No semivolatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	PZ-140_042111_01	PZ-140_042111_03			
Bis(2-ethylhexyl)phthalate	1.0	47U	192 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-14927-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14927-1	PZ-154_042111_01 EB_PZ-154_042111 PZ-140_042111_01 EB_PZ-140_042111	Hexachlorocyclopentadiene	J (all detects) R (all non-detects)	P	Laboratory control samples (%R) (L)
280-14927-1	PZ-154_042111_01 EB_PZ-154_042111 RD-01_042111_01 RS-07_042111_01 RD-46A_042111_01 RD-46B_042111_01 PZ-140_042111_01 EB_PZ-140_042111	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-14927-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-14927-1**

No Sample Data Qualified in this SDG

LDC #: 25468D2a
 SDG #: 280-14927-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/24/11
 Page: 1 of 1
 Reviewer: *[Signature]*
 2nd Reviewer: *[Signature]*

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/21/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	SW	LCS 10
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / split	SW	S = 7 + PZ-140-042111-03 (14D2221)
XVII.	Field blanks	ND	EB = 2, 8 FB = FB_041411-19 (280-1465-1) EB = EB_SH-04_040711 (280-14379-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinstate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	PZ-154_042111_01	11	MB 280-63733/1-A	21	31
2	EB_PZ-154_042111	12	MB 280-63993/1-A	22	32
3	RD-01_042111_01	13		23	33
4	RS-07_042111_01	14		24	34
5	RD-46A_042111_01	15		25	35
6	RD-46B_042111_01	16		26	36
7	PZ-140_042111_01	17		27	37
8	EB_PZ-140_042111	18		28	38
9		19		29	39
10		20		30	40

8270 Full W = 1, 2, 7, 8
 Phthalates + A + NB = 3
 Phthalates + NB = 4-6

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU.
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenyl ether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes: * = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

VALIDATION FINDINGS WORKSHEET
Field Split

METHOD: GC MS SVOA (EPA SW 846 Method 8270C)

Y N NA Were field split pairs identified in this SDG?

Y N NA Were target analytes detected in the field split pairs?

Compound	Concentration (ug/L)		(≤35)	Qualifications
	PZ-140_042111_01	PZ-140_042111_03	RPD	(Parent only)
Bis(2-ethylhexyl) phthalate	1.0	47U	192	NQ (<5xRL)

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 21, 2011

LDC Report Date: May 25, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14927-1

Sample Identification

PZ-154_042111_01
EB_PZ-154_042111
RD-01_042111_01
RS-07_042111_01
RD-46A_042111_01
RD-46B_042111_01
PZ-140_042111_01
EB_PZ-140_042111

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-nitrosodimethylamine was found in the method blanks.

Samples EB_PZ-154_042111, EB_PZ-140_042111, and EB_SH-04040711 (from SDG 280-14379-1) were identified as equipment blanks. No N-nitrosodimethylamine was found in these blanks.

Samples FB_PZ-154_042111_19, FB_RD-01_042111_19 (both for SDG 280-14927-2), and FB_041411_19 (from SDG 280-14655-1) were identified as field blanks. No N-nitrosodimethylamine was found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG280-14927-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples PZ-154_042111_01 and PZ-154_042111_36 (from SDG 280-14927-2) and samples RD-01_042111_01 and RD-01_042111_36 (from SDG 280-14927-2) were identified as field duplicates. No N-nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	PZ-154_042111_01	PZ-154_042111_36			
N-nitrosodimethylamine	0.016	0.018	12 (≤35)	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	RD-01_042111_01	RD-01_042111_36			
N-nitrosodimethylamine	0.0077	0.0061	23 (≤35)	-	-

Samples PZ-140_042111_01 and PZ-140_042111_03 (from SDG IUD2221) were identified as split samples. No N-nitrosodimethylamine was detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-14927-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14927-1	PZ-154_042111_01 EB_PZ-154_042111 RD-01_042111_01 RS-07_042111_01 RD-46A_042111_01 RD-46B_042111_01 PZ-140_042111_01 EB_PZ-140_042111	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary – SDG 280-14927-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-14927-1**

No Sample Data Qualified in this SDG

LDC #: 25468D2b
 SDG #: 280-14927-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/24/11
 Page: 1 of 1
 Reviewer: JVG
 2nd Reviewer: [Signature]

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/21/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	ICS / b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively Identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	S = 7 + PZ-140-042111-03 (1UD221)
XVI.	Field duplicates	SW	D ₁ = 1 + PZ-154-042111-36 > (280-14927-2) D ₂ = 3 + RD-01-042111-36
XVII.	Field blanks	ND	EB = 2, 8 FB = FB-041411-19 (280-14655-1) = FB-PZ-154-042111-19 = FB-RD-01-042111-19 > (280-14927-2) EB = EB-SH-04-040711 (280-14379-8)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinstate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	PZ-154_042111_01	D ₁	11	MB 280-63758/1-A	21	31
2	EB_PZ-154_042111		12	MB 280-64911/1-A	22	32
3	RD-01_042111_01	D ₂	13		23	33
4	RS-07_042111_01		14		24	34
5	RD-46A_042111_01		15		25	35
6	RD-46B_042111_01		16		26	36
7	PZ-140_042111_01		17		27	37
8	EB_PZ-140_042111		18		28	38
9			19		29	39
10			20		30	40

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GCMS NDMA (EPA Method 1625M)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent Only)
	PZ-154_042111_01	PZ-154_042111_36		
NDMA	0.016	0.018	12	

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent Only)
	RD-01_042111_01	RD-01_042111_36		
NDMA	0.0077	0.0061	23	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 21, 2011

LDC Report Date: May 25, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14927-1

Sample Identification

PZ-140_042111_01
EB_PZ-140_042111

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per a modification of EPA SW 846 Method 8270C using Selected Ion Monitoring (SIM) for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-64023/1-A	4/25/11	Benzo(g,h,i)perylene Dibenzo(a,h)anthracene Bis(2-ethylhexyl)phthalate Di-n-butylphthalate	0.00793 ug/L 0.00850 ug/L 0.180 ug/L 0.0131 ug/L	All samples in SDG 280-14927-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
PZ-140_042111_01	Benzo(g,h,i)perylene Dibenzo(a,h)anthracene Bis(2-ethylhexyl)phthalate Di-n-butylphthalate	0.0043 ug/L 0.0057 ug/L 0.31 ug/L 0.057 ug/L	10U ug/L 10U ug/L 10U ug/L 10U ug/L
EB_PZ-140_042111	Bis(2-ethylhexyl)phthalate	0.18 ug/L	11U ug/L

Sample EB_PZ-140_042111 was identified as an equipment blank. No semivolatile contaminants were found in this blank with the following exceptions:

Equipment BlankID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-140_042111	4/21/11	Bis(2-ethylhexyl)phthalate Butylbenzylphthalate	0.18 ug/L 0.12 ug/L	PZ-140_042111_01

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No semivolatiles were found in this blank.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-140_042111_01	Bis(2-ethylhexyl)phthalate Butylbenzylphthalate	0.31 ug/L 0.15 ug/L	10U ug/L 10U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG280-14927-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Samples PZ-140_042111_01 and PZ-140_042111_03 (from SDG IUD2221) were identified as split samples. No semivolatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	PZ-140_042111_01	PZ-140_042111_03			
Benzo(g,h,i)perylene	0.0043	9.4U	200 (≤35)	NQ	-
Dibenzo(a,h)anthracene	0.0057	19U	200 (≤35)	NQ	-
Bis(2-ethylhexyl) phthalate	0.31	9.4U	187 (≤35)	NQ	-
Butyl benzyl phthalate	0.15	9.4U	194 (≤35)	NQ	-
Di-n-butyl phthalate	0.057	9.4U	198 (≤35)	NQ	-
Diethyl phthalate	0.095	9.4U	196 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles- Data Qualification Summary - SDG 280-14927-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14927-1	PZ-140_042111_01 EB_PZ-140_042111	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles- Laboratory Blank Data Qualification Summary - SDG 280-14927-1**

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-14927-1	PZ-140_042111_01	Benzo(g,h,i)perylene Dibenzo(a,h)anthracene Bis(2-ethylhexyl)phthalate Di-n-butylphthalate	10U ug/L 10U ug/L 10U ug/L 10U ug/L	A	B
280-14927-1	EB_PZ-140_042111	Bis(2-ethylhexyl)phthalate	11U ug/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles- Field Blank Data Qualification Summary - SDG 280-14927-1**

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-14927-1	PZ-140_042111_01	Bis(2-ethylhexyl)phthalate Butylbenzylphthalate	10U ug/L 10U ug/L	A	F

25468
 LDC #: 25435D2c
 SDG #: 280-14927-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/24/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC/MS ^{Semi volatiles} Polynuclear Aromatic Hydrocarbons (EPA SW846 Method 8270C-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4 / 21 / 11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS / b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / Split	SW	S = 1 + P2-140-042111-03 (1UD2221)
XVII.	Field blanks	SW	EB = 2 FB = FB_041411-19 (280-14655-1)

Note: A = Acceptable *ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

1	PZ-140_042111_01	11	21	31
2	EB_PZ-140_042111	12	22	32
3		13	23	33
4		14	24	34
5		15	25	35
6		16	26	36
7		17	27	37
8		18	28	38
9		19	29	39
10		20	30	40

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(e)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU.
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes: * = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

N/A Were field blanks identified in this SDG?

N/A Were target compounds detected in the field blanks?

Blank units: ug/L Associated sample units: ug/L

Sampling date: 4/21/11

Field blank type: (circle one) Field Blank / Rinsate / Other: EB

Associated Samples: 1

Code: #

Compound	Blank ID	Sample Identification									
	<u>7</u>										
<u>EEF</u>	<u>0.18</u>										
<u>AAA</u>	<u>0.12</u>										

Blank units: _____ Associated sample units: _____
Sampling date: _____
Field blank type: (circle one) Field Blank / Rinsate / Other: _____

Compound	Blank ID	Sample Identification									

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Split

METHOD: GC MS SVOA (EPA SW 846 Method 8270C-SIM)
Y N NA Were field split pairs identified in this SDG?
Y N NA Were target analytes detected in the field split pairs?

Compound	Concentration (ug/L)		(≤ 35) RPD	Qualifications (Parent only)
	PZ-140_042111_01	PZ-140_042111_03		
Benzo(g,h,i)perylene	0.0043	9.4U	200	NQ (<5XRL)
Dibenzo(a,h)anthracene	0.0057	19U	200	NQ (<5XRL)
Bis(2-ethylhexyl) phthalate	0.31	9.4U	187	NQ (<5XRL)
Butyl benzyl phthalate	0.15	9.4U	194	NQ (<5XRL)
Di-n-butyl phthalate	0.057	9.4U	198	NQ (<5XRL)
Diethyl phthalate	0.095	9.4U	196	NQ (<5XRL)

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 21, 2011

LDC Report Date: May 25, 2011

Matrix: Water

Parameters: Polychlorinated Biphenyls

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14927-1

Sample Identification

PZ-154_042111_01
EB_PZ-154_042111
PZ-140_042111_01
EB_PZ-140_042111

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

Samples EB_PZ-154_042111 and EB_PZ-140_042111 were identified as equipment blanks. No polychlorinated biphenyl contaminants were found in these blanks.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No polychlorinated biphenyl contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

Raw data were not reviewed for this SDG.

XIII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG280-14927-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

No field duplicates were identified in this SDG.

Samples PZ-140_042111_01 and PZ-140_042111_03 (from SDG IUD2221) were identified as split samples. No polychlorinated biphenyls were detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Data Qualification Summary - SDG 280-14927-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14927-1	PZ-154_042111_01 EB_PZ-154_042111 PZ-140_042111_01 EB_PZ-140_042111	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 280-14927-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG 280-14927-1**

No Sample Data Qualified in this SDG

LDC #: 25488D3b
 SDG #: 280-14927-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/22/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/21/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS 1b
IX.	Regional quality assurance and quality control	N	
X.	Florisil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation and reported CRQLs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates / split	ND	5 = 3 + PZ-140_042111_03 (14D2221)
XVI.	Field blanks	ND	EB = 2, 4 FB = FB_041911_19 (280-14655-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: Water

1	PZ-164_042111_01	11	MP 280-63968 A-A	21	31
2	EB_PZ-154_042111	12		22	32
3	PZ-140_042111_01	13		23	33
4	EB_PZ-140_042111	14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 21, 2011

LDC Report Date: May 19, 2011

Matrix: Water

Parameters: Dissolved Metals

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14927-1

Sample Identification

PZ-154_042111_01
EB_PZ-154_042111
PZ-140_042111_01
EB_PZ-140_042111
PZ-154_042111_01MS
PZ-154_042111_01MSD
PZ-140_042111_01MS
PZ-140_042111_01MSD

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B, 6020, and 7000 for Dissolved Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No dissolved metals were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Sodium	0.391 mg/L	All samples in SDG 280-14927-1

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
EB_PZ-140_042111	Sodium	0.32 mg/L	0.32U mg/L

Samples EB_PZ-154_042111 and EB_PZ-140_042111 were identified as equipment blanks. No dissolved metals were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_PZ-154_042111	4/21/11	Boron Calcium Magnesium Potassium Sodium Barium	0.39 mg/L 330 mg/L 33 mg/L 2.1 mg/L 500 mg/L 0.0013 mg/L	PZ-154_042111_01

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_PZ-140_042111	4/21/11	Calcium Sodium	0.037 mg/L 0.32 mg/L	PZ-140_042111_01

Sample FB_041411_19F (from SDG 280-14655-1) was identified as a field blank. No dissolved metals were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_041411_19F	4/14/11	Iron Manganese Sodium Tin	0.082 mg/L 0.0012 mg/L 0.29 mg/L 0.00017 mg/L	PZ-154_042111_01 PZ-140_042111_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
PZ-154_042111_01	Boron Calcium Magnesium Potassium Sodium	0.39 mg/L 330 mg/L 33 mg/L 2.1 mg/L 490 mg/L	0.39U mg/L 330U mg/L 33U mg/L 2.1U mg/L 490U mg/L

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution data were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-14927-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Samples PZ-140_042111_01 and PZ-140_042111_03 (from SDG IUD2221) were identified as split samples. No dissolved metals were detected in any of the samples with the following exceptions:

Compound	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	PZ-140_042111_01	PZ-140_042111_03			
Antimony	0.0031U	0.00051	143 (≤ 35)	NQ	-
Arsenic	0.00069	0.00090U	26 (≤ 35)	-	-
Barium	0.061	0.059	3 (≤ 35)	-	-
Boron	0.047	0.053	12 (≤ 35)	-	-

Compound	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	PZ-140_042111_01	PZ-140_042111_03			
Cadmium	0.000063	0.00012	62 (≤35)	NQ	-
Calcium	110	130	17 (≤35)	-	-
Cobalt	0.00054	0.00058	7 (≤35)	-	-
Copper	0.00056U	0.00050	11 (≤35)	-	-
Iron	0.022U	0.020	10 (≤35)	-	-
Magnesium	37	39	5 (≤35)	-	-
Manganese	0.071	0.066	7 (≤35)	-	-
Nickel	0.0035	0.0026	30 (≤35)	-	-
Potassium	3.3	3.1	6 (≤35)	-	-
Selenium	0.0013	0.0015	14 (≤35)	-	-
Sodium	74	71	4 (≤35)	-	-
Thallium	0.000037	0.00020U	138 (≤35)	NQ	-
Vanadium	0.0011	0.00086	24 (≤35)	-	-
Molybdenum	0.0025	0.0030	18 (≤35)	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Data Qualification Summary - SDG 280-14927-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-14927-1	PZ-154_042111_01 EB_PZ-154_042111 PZ-140_042111_01 EB_PZ-140_042111	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Laboratory Blank Data Qualification Summary - SDG 280-14927-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-14927-1	EB_PZ-140_042111	Sodium	0.32U mg/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Field Blank Data Qualification Summary - SDG 280-14927-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-14927-1	PZ-154_042111_01	Boron Calcium Magnesium Potassium Sodium	0.39U mg/L 330U mg/L 33U mg/L 2.1U mg/L 490U mg/L	A	F

LDC #: 25468D4

VALIDATION COMPLETENESS WORKSHEET

Date: 5-19-11

SDG #: 280-14927-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: MG

2nd Reviewer: [Signature]

METHOD: Metals (EPA SW 846 Method 6010B/6020/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4-21-11
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	A	MS/MSD
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	A	LCS/LCSD
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	not utilized
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	
XIV.	Field Duplicates	SW	S=7 + PZ-140_042111_03 (SDG: IUD2221)
XV.	Field Blanks	SW	EB= 6, 8

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

FB = FB_041411-19F (SDG: 280-14655-1)
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:
 all water

1	PZ-154_042111_01	11	PZ-140_042111_01FMS	21		31	
2	EB_PZ-154_042111	12	PZ-140_042111_01FMSD	22		32	
3	PZ-140_042111_01	13		23		33	
4	EB_PZ-140_042111	14		24		34	
5	PZ-154_042111_01F	15		25		35	
6	EB_PZ-154_042111F	16		26		36	
7	PZ-140_042111_01F	17		27		37	
8	EB_PZ-140_042111F	18		28		38	
9	PZ-154_042111_01FMS	19		29		39	
10	PZ-154_042111_01FMSD	20		30	PBW	40	

Notes: Samples appended with "F" were analyzed for dissolved metals

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)

Soil preparation factor applied: NA

2nd Reviewer: [Signature]

Sample Concentration units, unless otherwise noted: mg/L

Associated Samples: all Qual: U (B)

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	8								
Na		0.391		1.955	0.32								

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

Y/N N/A Were field blanks identified in this SDG?
 Y/N N/A Were target analytes detected in the field blanks?

Blank units: mg/L Associated sample units: mg/L

Sampling date: 4/21/11 Soil factor applied: NA

Field blank type: (circle one) Field Blank / Rinsate (Other) EB

Associated Samples: 5 Qual: U (F)

Analyte	Blank ID	Action Level	No Qual's	Sample Identification
B	6	1.95	5	
	0.39	0.39		
Ca	330	1650	330	
Mg	33	165	33	
K	2.1	10.5	2.1	
Na	500	2500	490	
Ba	0.0013	0.0065		

Blank units: mg/L Associated sample units: mg/L

Sampling date: 4/21/11 Soil factor applied: NA

Field blank type: (circle one) Field Blank / Rinsate (Other) EB

Associated Samples: 7 (>5x)

Analyte	Blank ID	Action Level	No Qual's	Sample Identification
Ca	0.037	0.185		
Na	0.32	1.6		

Blank units: mg/L Associated sample units: mg/L

Sampling date: 4/14/11 Soil factor applied: NA

Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: 5, 7 (Not analyzed for Sn) (ND or > 5x)

Analyte	Blank ID	Action Level	No Qual's	Sample Identification
Fe	0.082	0.41		
Mn	0.0012	0.006		
Na	0.29	1.45		
Sn	0.00017	0.00085		

VALIDATION FINDINGS WORKSHEET

Field Duplicates

METHOD: Metals (EPA Method 6010B/7000)

Y N NA
 Y N NA

Were field duplicate pairs identified in this SDG?

Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤ 35)	Qual. Parent only
	7	PZ-140_042111_03		
Antimony	0.0031U	0.00051	143	no qual. <i>LSK</i>
Arsenic	0.00069	0.00090U	26	
Barium	0.061	0.059	3	
Boron	0.047	0.053	12	
Cadmium	0.000063	0.00012	62	no qual. <i>LSK</i>
Calcium	110	130	17	
Cobalt	0.00054	0.00058	7	
Copper	0.00056U	0.00050	11	
Iron	0.022U	0.020	10	
Magnesium	37	39	5	
Manganese	0.071	0.066	7	
Nickel	0.0035	0.0026	30	
Potassium	3.3	3.1	6	
Selenium	0.0013	0.0015	14	
Sodium	74	71	4	
Thallium	0.000037	0.00020U	138	no qual. <i>LSK</i>
Vanadium	0.0011	0.00086	24	
Molybdenum	0.0025	0.0030	18	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 21, 2011
LDC Report Date: May 31, 2011
Matrix: Water
Parameters: Wet Chemistry
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14927-1

Sample Identification

RD-01_042111_01
RS-07_042111_01
RD-46A_042111_01
RD-46B_042111_01
PZ-140_042111_01
EB_PZ-140_042111
RS-07_042111_01MS
RS-07_042111_01MSD
RS-07_042111_01DUP
PZ-140_042111_01MS
PZ-140_042111_01MSD
PZ-140_042111_01DUP

Introduction

This data review covers 12 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 350.1 for Ammonia as Nitrogen, EPA Method 300.0 for Bromide, Chloride, Fluoride, Nitrate, Nitrite, Orthophosphate, and Sulfate, EPA SW 846 Method 7196A for Hexavalent Chromium and Dissolved Hexavalent Chromium, EPA Method 314.0 for Perchlorate, and EPA SW 846 Method 9040B for pH.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

Raw data were not reviewed for this SDG. The review was based on QC data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
RS-07_042111_01	pH	50.25 hours	48 hours	J (all detects) UJ (all non-detects)	P
PZ-140_042111_01 EB_PZ-140_042111 PZ-140_042111_01MS PZ-140_042111_01MSD PZ-140_042111_01DUP	Hexavalent chromium Dissolved hexavalent chromium	31.25 hours	24 hours	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks.

Samples EB_PZ-140_042111 and EB_SH-04_040711 (from SDG 280-14379-1) were identified as equipment blanks. No contaminant concentrations were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_SH-04_040711	4/7/11	Fluoride Nitrate Ammonia as N Cyanide pH	0.11 mg/L 0.19 mg/L 0.091 mg/L 0.0020 mg/L 5.83 units	RS-07_042111_01

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No contaminant concentrations were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_041411_19	4/14/11	pH	5.81 units	RS-07_042111_01 PZ-140_042111_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
RS-07_042111_01	Ammonia as N	0.064 mg/L	0.064U mg/L

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-14927-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

Samples PZ-140_042111_01 and PZ-140_042111_03 (from SDG IUD2221) were identified as split samples. No contaminant concentrations were detected in any of the samples with the following exceptions:

Compound	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	PZ-140_042111_01	PZ-140_042111_03			
Bromide	0.45	0.82	58 (≤35)	NQ	-
Fluoride	0.45	0.55	20 (≤35)	-	-
Chloride	140	130	7 (≤35)	-	-
Nitrate	11	11	0 (≤35)	-	-
Sulfate	130	130	0 (≤35)	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-14927-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-14927-1	RS-07_042111_01	pH	J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-14927-1	PZ-140_042111_01 EB_PZ-140_042111	Hexavalent chromium Dissolved hexavalent chromium	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-14927-1	RD-01_042111_01 RS-07_042111_01 RD-46A_042111_01 RD-46B_042111_01 PZ-140_042111_01 EB_PZ-140_042111	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-14927-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-14927-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-14927-1	RS-07_042111_01	Ammonia as N	0.064U mg/L	A	F

LDC #: 25448D6
 SDG #: 280-14927-1
 Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET

9M4

Level V

Date: 5-19-11
 Page: 1 of 1
 Reviewer: MG
 2nd Reviewer: [Signature]

METHOD: (Analyte) Ammonia-N (EPA Method 350.1), Bromide, Chloride, Fluoride, Nitrate, Nitrite, Orthophosphate, Sulfate (EPA Method 300.0), Hexavalent Chromium & Dissolved Hexavalent Chromium (EPA SW846 Method 7196A), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B).

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

Validation Area		Comments	
I.	Technical holding times	SW	Sampling dates: 4-21-11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/MSD
V	Duplicates		DUP
VI.	Laboratory control samples	A	LCS/LCSD
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	SW	S = 5 + PZ-140-042111-03 (SDG: IUD222 21)
X	Field blanks	SW	EB = 6*, EB-SH-04-040711 (SDG: 280-14379-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

* = ND = No compounds detected
 R = Rinsate
 FB = Field blank

FB = FB-041411-19 (SDG: 280-14655-1)
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: all water

1	RD-01_042111_01	11	PZ-140_042111_01MSD	21	31
2	RS-07_042111_01	12	PZ-140_042111_01DUP	22	32
3	RD-46A_042111_01	13		23	33
4	RD-46B_042111_01	14		24	34
5	PZ-140_042111_01	15		25	35
6	EB_PZ-140_042111	16		26	36
7	RS-07_042111_01MS	17		27	37
8	RS-07_042111_01MSD	18		28	38
9	RS-07_042111_01DUP	19		29	39
10	PZ-140_042111_01MS	20		30	40

Notes: _____

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1-4	W	pH TDS Cl (F) (NO ₃) NO ₂ SO ₄ PO ₄ ALK CN' NH ₃ TKN TOC CR ⁶⁺ (ClO ₄)
5, 6	↓	pH TDS (Cl) (F) (NO ₃) (NO ₂) (SO ₄) (PO ₄) ALK CN' NH ₃ TKN TOC (CR ⁶⁺) (ClO ₄) (Br) (diss Cr VI)
QC 7-9		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN' NH ₃ TKN TOC CR ⁶⁺ (ClO ₄)
10, 11		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN' NH ₃ TKN TOC (CR ⁶⁺) ClO ₄
12		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN' NH ₃ TKN TOC CR ⁶⁺ ClO ₄ (diss Cr VI)
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN' NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN' NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN' NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN' NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN' NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN' NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN' NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN' NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN' NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN' NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN' NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN' NH ₃ TKN TOC CR ⁶⁺ ClO ₄
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		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN' NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN' NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN' NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN' NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN' NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN' NH ₃ TKN TOC CR ⁶⁺ ClO ₄

Comments: _____

VALIDATION FINDINGS WORKSHEET
Technical Holding Times

All circled dates have exceeded the technical holding time.

 N/A Were all samples preserved as applicable to each method? N/A Were all cooler temperatures within validation criteria?

Method:		9040B		7196A			
Parameters:		PH		Total Cr VI dissolved			
Technical holding time:		48 hr		24 hr			
Sample ID	Sampling date	Analysis date	Analysis date	Analysis date	Analysis date	Analysis date	Qualifier
2	0852 4-21-11	1113 4-23-11	(50.25 hr)				J/UJ/P (H)
5	0954 4-21-11			1705 4-22-11	(31.25 hr)		
6	↓			↓			
10	↓			↓			
11	↓			↓			
12	↓			↓			

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: Inorganics, EPA Method See Cover
 N N/A Were field blanks identified in this SDG?
 N N/A Were target analytes detected in the field blanks?
 Blank units: mg/L Associated sample units: mg/L
 Sampling date: 4/7/11 Soil factor applied: NA
 Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: 2 (Not analyzed for CN) Qual: U (F)

Analyte	Blank ID	Action Limit	Sample Identification
	EB SH-04 040711		2
F	0.11	0.55	
NO3	0.19	0.95	
NH3-N	0.091	0.455	0.064
CN	0.0020	0.01	
pH (pH units)	5.83		

Blank units: pH units Associated sample units:
 Sampling date: 4/14/11 Soil factor applied: NA
 Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: 2, 5

Analyte	Blank ID	Action Limit	Sample Identification
	FB_041411_19		No Qual's.
pH	5.81		

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Inorganics, Method See Cover

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	Qual. Parent only
	5	PZ-140_042111_03		
Bromide	0.45	0.82	58	no qual. <i>W</i>
Fluoride	0.45	0.55	20	
Chloride	140	130	7	
Nitrate	11	11	0	
Sulfate	130	130	0	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 21, 2011

LDC Report Date: May 25, 2011

Matrix: Water

Parameters: Diesel Range Organics

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14927-1

Sample Identification

PZ-154_042111_01
EB_PZ-154_042111
RD-01_042111_01
RS-07_042111_01
EB_RS-07_042111
RD-46A_042111_01
RD-46B_042111_01
PZ-140_042111_01
EB_PZ-140_042111

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were EPA SW 846 Method 8015B for Diesel Range Organics.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No diesel range organic contaminants were found in the method blanks.

Samples EB_PZ-154_042111, EB_RS-07_042111, EB_PZ-140_042111, and EB_SH-04_040711 (from SDG 280-14379-1) were identified as equipment blanks. No diesel range organic contaminants were found in these blanks.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No diesel range organic contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14927-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Samples PZ-140_042111_01 and PZ-140_042111_03 (from SDG IUD2221) were identified as split samples. No diesel range organics were detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Data Qualification Summary - SDG 280-14927-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14927-1	PZ-154_042111_01 EB_PZ-154_042111 RD-01_042111_01 RS-07_042111_01 EB_RS-07_042111 RD-46A_042111_01 RD-46B_042111_01 PZ-140_042111_01 EB_PZ-140_042111	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Laboratory Blank Data Qualification Summary - SDG 280-14927-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Field Blank Data Qualification Summary - SDG 280-14927-1**

No Sample Data Qualified in this SDG

LDC #: 25468D8

VALIDATION COMPLETENESS WORKSHEET

Date: 5/22/11

SDG #: 280-14927-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JVL

2nd Reviewer: [Signature]

METHOD: GC Diesel Range Organics (Oklahoma Department of Environmental Quality) ^{8015 B}

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/21/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	LCS 1B
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates / Split	ND	S = 8 + PZ-140-042111-03 (1UD2221)
XIII.	Field blanks	ND	EB = 2, 5, 9 FB = FB-041411-19 (280-14927-1) EB = EB-SH-04-040711 (280-14379-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinstate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

WWT-1

1	PZ-154_042111_01	11	MB 280-63792 / 1-A	21	31
2	EB_PZ-154_042111	12		22	32
3	RD-01_042111_01	13		23	33
4	RS-07_042111_01	14		24	34
5	EB_RS-07_042111	15		25	35
6	RD-46A_042111_01	16		26	36
7	RD-46B_042111_01	17		27	37
8	PZ-140_042111_01	18		28	38
9	EB_PZ-140_042111	19		29	39
10		20		30	40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 21, 2011

LDC Report Date: May 25, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14927-1/A1D220525

Sample Identification

RD-01_042111_01
RS-07_042111_01
RD-46A_042111_01
RD-46B_042111_01
PZ-140_042111_01
EB_PZ-140_042111

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

Samples EB_PZ-140_042111 and EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No formaldehyde was found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No formaldehyde was found in this blank.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14927-1/A1D220525	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Samples PZ-140_042111_01 and PZ-140_042111_03 (from SDG IUD2221) were identified as split samples. No formaldehyde was detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Data Qualification Summary - SDG 280-14927-1/A1D220525**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14927-1/ A1D220525	RD-01_042111_01 RS-07_042111_01 RD-46A_042111_01 RD-46B_042111_01 PZ-140_042111_01 EB_PZ-140_042111	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-14927-1/A1D220525**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Field Blank Data Qualification Summary - SDG 280-14927-1/A1D220525**

No Sample Data Qualified in this SDG

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/21/11
II	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	A	LCS
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates / Split	ND	S = 5 + PZ-140_042111_03 (1UD2221)
XIII.	Field blanks	ND	EB = 6 FB = FB_041411_19 (280-14655-1) EB = EB_SH-04_040711 (280-14379-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	RD-01_042111_01	11	11 12 302 - MB	21	31
2	RS-07_042111_01	12		22	32
3	RD-46A_042111_01	13		23	33
4	RD-46B_042111_01	14		24	34
5	PZ-140_042111_01	15		25	35
6	EB_PZ-140_042111	16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 21, 2011

LDC Report Date: May 25, 2011

Matrix: Water

Parameters: Hydrazines

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14927-1

Sample Identification

PZ-154_042111_01
EB_PZ-154_042111
RD-01_042111_01
RS-07_042111_01
EB_RS-07_042111
RD-46A_042111_01
RD-46B_042111_01

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DVWC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazine contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound	Concentration	Associated Samples
MB 280-64608/25	4/27/11	1,1-Dimethylhydrazine Monomethylhydrazine	1.26 ug/L 0.760 ug/L	RD-01_042111_01 RS-07_042111_01 EB_RS-07_042111 RD-46A_042111_01 RD-46B_042111_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks

Samples EB_PZ-154_042111, EB_RS-07_042111, and EB_SH-04_040711 (from SDG 280-14379-1) were identified as equipment blanks. No hydrazine contaminants were found in these blanks.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No hydrazine contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14927-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-14927-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14927-1	PZ-154_042111_01 EB_PZ-154_042111 RD-01_042111_01 RS-07_042111_01 EB_RS-07_042111 RD-46A_042111_01 RD-46B_042111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-14927-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-14927-1**

No Sample Data Qualified in this SDG

LDC #: 25468D76

VALIDATION COMPLETENESS WORKSHEET

Date: 5/24/11

SDG #: 280-14927-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: NV

2nd Reviewer: [Signature]

METHOD: HPLC Hydrazines (Method DWWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/21/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	SW	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	N	Client spec
VII.	Laboratory control samples	A	LCS 1b
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates <i>fsp/ra</i>	ND	<i>5</i>
XIII.	Field blanks	ND	EB = 2, 5 FB = FB_041411-19 (280-14655-1) EB = EB_SH-04-040711 (280-14379-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	PZ-154_042111_01	11	MB 280-64608/35	21	31
2	EB_PZ-154_042111	12		22	32
3	RD-01_042111_01	13		23	33
4	RS-07_042111_01	14		24	34
5	EB_RS-07_042111	15		25	35
6	RD-46A_042111_01	16		26	36
7	RD-46B_042111_01	17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter		
1, 2	W	<u>Hydrazine</u> ^(A)	1,1-Dimethylhydrazine ^(B)	Monomethyl Hydrazine ^(C)
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
3 - 7	W	<u>Hydrazine</u>	<u>1,1-Dimethylhydrazine</u>	<u>Monomethyl Hydrazine</u>
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine

Comments: _____

Blanks

METHOD: GC / HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- Y N N/A Were all samples associated with a given method blank?
- Y N N/A Was a method blank performed for each matrix and whenever a sample extraction procedure was performed?
- Y N N/A Was a method blank performed with each extraction batch?
- Y N N/A Were any contaminants found in the method blanks? If yes, please see findings below.

Level IV/D Only

- Y N N/A (Gasoline and aromatics only) Was a method blank analyzed with each 24 hour batch?
- Y N N/A Was a method blank analyzed for each analytical / extraction batch of ≤20 samples?

Blank extraction date: N/A Blank analysis date: 4/27/11 Associated samples: 3-7 (ND)

Conc. units: ug/L

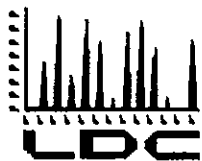
Compound	Blank ID	Sample Identification
	MB 280-64608/25	
b	1.26	
c	0.760	

Blank extraction date: Blank analysis date: Conc. units:

Associated samples:

Compound	Blank ID	Sample Identification

ALL CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT: All contaminants within five times the method blank concentration were qualified as not detected, "U".



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

June 9, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

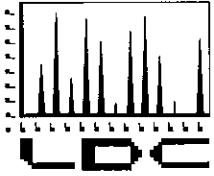
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 12, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25468:

<u>SDG #</u>	<u>Fraction</u>
280-14817/IUD2255/ A1D200567, 280-14865-1/IUD2257/ A1D210577, 280-14927-1/IUD2311/ A1D220525	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Pentachlorophenol, N- Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, 1,2- Dibromoethane & 1,2-Dibromo-3-chloropropane, Organophosphorus Pesticides, Hexachloroethane, Formaldehyde, Hydrazine
280-14865-2	N-Nitrosodimethylamine, Perchlorate
280-15011-2	N-Nitrosodimethylamine

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004



- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

A handwritten signature in black ink that reads 'Pei Geng' in a cursive style.

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV LDC #25468 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane (8260B-S)		1,2,3-TCP (524.2)		SVOA (8270C)		SVOA (8270C-SIM)		PCP (8270C-LL)		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (OK-DEQ)		EDB (504.1)		Formaldehyde (8315)		Hexachlorophene (8321A)		OPHS Pest. (8141A)		Herbs (8151A)			
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S		
Matrix: Water/Soil.																																							
A	280-14817-1 IUD2255/ A1D200567	05/12/11	06/03/11	6	0	6	0	3	0	4	0	-	-	2	0	4	0	2	0	2	0	2	0	3	0	3	0	4	0	2	0	2	0	2	0	2	0		
B	280-14865-1/ IUD2257/ A1D210577	05/12/11	06/03/11	11	0	11	0	9	0	7	0	-	-	5	0	9	0	5	0	5	0	5	0	5	0	7	0	6	0	8	0	5	0	5	0	5	0		
C	280-14865-2	05/12/11	06/03/11	-	-	-	-	-	-	-	-	-	-	-	-	3	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
D	280-14927-1/ IUD2311/ A1D220525	05/12/11	06/03/11	11	0	11	0	3	0	8	0	2	0	-	-	8	0	-	-	4	0	-	-	4	0	9	0	-	-	6	0	-	-	-	-	-	-	-	
E	280-15011-2	05/12/11	06/03/11	-	-	-	-	-	-	-	-	-	-	-	-	6	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total																																							
T/PG				28	0	28	0	15	0	19	0	2	0	7	0	30	0	7	0	11	0	8	0	12	0	20	0	9	0	18	0	7	0	7	0	7	0		

Client Select IV LDC #25468 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydrazine (DVWC)		CLO ₂ (6860)		Alk. (2320B)		NH ₃ -N (350.1)		Cl SO ₄ (300.0)		Br NO ₂ O-PO ₄		F NO ₃ (300.0)		CN- (9012A)		Cond. (2510B)		Cr(VI) & Diss. Cr(VI)		CLO ₂ (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)		S= (4500 -S2 D)			
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
Matrix: Water/Soil.																																							
A	280-14817-1	05/12/11	06/03/11	4	0	2	0	2	0	-	-	2	0	4	0	2	0	-	-	4	0	2	0	2	0	2	0	-	-	4	0	4	0	2	0	2	0	2	0
B	280-14865-1	05/12/11	06/03/11	9	0	8	0	8	0	-	-	2	0	9	0	2	0	-	-	9	0	5	0	2	0	2	0	-	-	9	0	9	0	2	0	2	0	5	0
C	280-14865-2	05/12/11	06/03/11	-	-	-	-	-	-	5	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D	280-14927-1	05/12/11	06/03/11	5	0	5	0	7	0	-	-	-	-	4	0	2	0	2	0	6	0	-	-	2	0	2	0	2	0	4	0	4	0	-	-	-	-	-	-
Total																																							
T/PG				18	0	15	0	17	0	5	0	4	0	17	0	6	0	2	0	19	0	7	0	4	0	4	0	2	0	17	0	17	0	4	0	4	0	7	0

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 25, 2011

LDC Report Date: May 26, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15011-2

Sample Identification

RD-45A_042511_36
FB_RD-45A_042511_19
RD-02_042511_36
FB_RD-02_042511_19
ES-17_042511_36
FB_ES-17_042511_19

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-nitrosodimethylamine was found in the method blanks.

Samples FB_RD-45A_042511_19, FB_RD-02_042511_19, and FB_ES-17_042511_19 were identified as field blanks. No N-nitrosodimethylamine was found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15011-2	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RD-45A_042511_36 and RD-45A_042511_01 (from SDG 280-15011-1), samples RD-02_042511_36 and RD-02_042511_01 (from SDG 280-15011-1), and samples ES-17_042511_36 and ES-17_042511_01 (from SDG 280-15011-1) were identified as field duplicates. No N-nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	RD-45A_042511_01	RD-45A_042511_36			
N-nitrosodimethylamine	0.066	0.066	0 (≤35)	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	RD-02_042511_01	RD-02_042511_36			
N-nitrosodimethylamine	0.0064	0.0065	2 (≤35)	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	ES-17_042511_01	ES-17_042511_36			
N-nitrosodimethylamine	0.082	0.073	12 (≤35)	-	-

**Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-15011-2**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15011-2	RD-45A_042511_36 FB_RD-45A_042511_19 RD-02_042511_36 FB_RD-02_042511_19 ES-17_042511_36 FB_ES-17_042511_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary – SDG 280-15011-2**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-15011-2**

No Sample Data Qualified in this SDG

LDC #: 25468E2b
 SDG #: 280-15011-2
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/24/11
 Page: 1 of 1
 Reviewer: MG
 2nd Reviewer: [Signature]

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/25/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCC ID
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	D ₁ = 1 + RD-45A_042511-01
XVI.	Field duplicates	SW	D ₂ = 3 + RD-02_042511-01 D ₃ = 5 + ES-17_042511-01 280-15011-1
XVII.	Field blanks	ND	FB = 2, 4, 6

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

+	1	RD-45A_042511_36	11	MB 280-64654/1-A	21		31
-	2	FB_RD-45A_042511_19	12		22		32
+	3	RD-02_042511_36	13		23		33
-	4	FB_RD-02_042511_19	14		24		34
+	5	ES-17_042511_36	15		25		35
-	6	FB_ES-17_042511_19	16		26		36
	7		17		27		37
	8		18		28		38
	9		19		29		39
	10		20		30		40

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GCMS NDMA (EPA Method 1625M)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent Only)
	RD-45A_042511_01	RD-45A_042511_36		
NDMA	0.066	0.066	0	

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent Only)
	RD-02_042511_01	RD-02_042511_36		
NDMA	0.0064	0.0065	2	

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent Only)
	ES-17_042511_01	ES-17_042511_36		
NDMA	0.082	0.073	12	



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 27, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

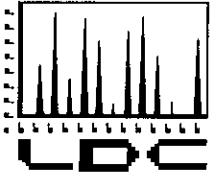
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 16, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25473:

<u>SDG #</u>	<u>Fraction</u>
280-14528-1/ 8993	Gross Alpha & Beta, Gamma Spectroscopy, Strontium-90, Tritium, Isotopic Uranium
280-14967-1/ IUD2440/ A1D230423	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Pentachlorophenol, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane, Organophosphorus Pesticides, Hexachloroethane, Formaldehyde, Hydrazine
280-14974-1/ H1D260440 280-15013-1 280-15079-1/ H1D300402 280-15128-1/ H1D300401 280-15187-1/ H1D300410	Dioxins/Dibenzofurans

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010



- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV LDC #25473 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane (8260B-S)		1,2,3-TCP (524.2)		SVOA (8270C)		PCP (8270C-LL)		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (OK-DEQ)		EDB (504.1)		Formaldehyde (8315)		Hexachloro-rophene (8321A)		OPHS Pest. (8141A)		Herbs (8151A)		Dioxins (8290)			
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S		
B	280-14967-1/ IUD2440/ A1D230423	05/16/11	06/07/11	13	0	13	0	12	0	10	0	2	0	10	0	2	0	2	0	3	0	3	0	10	0	4	0	11	0	2	0	2	0	2	0	2	0	-	-
C	280-14974-1/ H1D260440	05/16/11	06/07/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0
D	280-15013-1	05/16/11	06/07/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0
E	280-15079-1/ H1D300402	05/16/11	06/07/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0
F	280-15128-1/ H1D300401	05/16/11	06/07/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0
G	280-15187-1/ H1D300410	05/16/11	06/07/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	0
Total	T/PG			13	0	13	0	12	0	10	0	2	0	10	0	2	0	2	0	3	0	3	0	10	0	4	0	11	0	2	0	2	0	2	0	2	0	17	118

Client Select IV LDC #25473 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydra-zine (DVWC)		Alk. (2320B)		NH ₃ -N (350.1)		Cl SO ₄ (300.0)		F NO ₃ (300.0)		CN- (9012A)		Cond. (2510B)		CLO ₄ (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)		S= (4500 -S2 D)						
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S			
B	280-14967-1	05/16/11	06/07/11	10	0	10	0	10	0	2	0	10	0	2	0	10	0	2	0	2	0	10	0	10	0	2	0	2	0	2	0	2	0	0	0	
Total	T/PG			10	0	10	0	10	0	2	0	10	0	2	0	10	0	2	0	2	0	10	0	10	0	2	0	2	0	2	0	2	0	0	0	84

Client Select IV LDC #25473 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	Gross α&β (900.0)		Gamma Spec. (901.1)		Sr-90 (905.0)		Tritium (906.0)		Iso. U (908.0)	
				W	S	W	S	W	S	W	S	W	S
A	280-14528-1/ 8993	05/16/11	06/07/11	2	0	2	0	2	0	1	0	2	0
Total	T/PG			2	0	2	0	2	0	1	0	2	0

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 12, 2011
LDC Report Date: May 26, 2011
Matrix: Water
Parameters: Gross Alpha & Beta
Validation Level: Level V
Laboratory: TestAmerica Laboratories, Inc./Eberline Analytical
Sample Delivery Group (SDG): 280-14528-1/8993

Sample Identification

RD-98_041211_01D
RD-98_041211_01DDUP
RD-98_041211_01P

Samples ending in "D" were reported for dissolved only
Samples ending in "P" were reported for particulate only

Introduction

This data review covers 3 water samples listed on the cover sheet. The analyses were per EPA Method 900.0 for Gross Alpha and Beta Radioactivity.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field blanks were identified in this SDG.

V. Matrix Spike/Matrix Spike Duplicates

A matrix spike (MS) analysis was not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits with the following exceptions:

LCS ID	Isotope	%R (Limits)	Associated Samples	Flag	A or P
LCS	Gross alpha	122 (80-120)	All samples in SDG 280-14528/8993	J (all detects)	P

VIII. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

IX. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-14528-1/8993	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG

X. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Gross Alpha & Beta - Data Qualification Summary - SDG 280-14528-1/8993**

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-14528-1/8993	RD-98_041211_01D RD-98_041211_01P	Gross alpha	J (all detects)	P	Laboratory control samples (%R) (L)
280-14528-1/8993	RD-98_041211_01D RD-98_041211_01P	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Gross Alpha & Beta - Laboratory Blank Data Qualification Summary - SDG 280-14528-1/8993**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Gross Alpha & Beta - Field Blank Data Qualification Summary - SDG 280-14528-1/8993**

No Sample Data Qualified in this SDG

METHOD: Gross Alpha & Beta (EPA SW 846 Method 900.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4-12-11
II.	Initial calibration	N	
III.	Calibration verification	N	
IV.	Blanks	A	
V.	Matrix Spike/(Matrix Spike) Duplicates	A	DUP
VI.	Laboratory control samples	SW	LCS
VII.	Minimum detectable activity (MDA)	A	
VIII.	Sample result verification	N	
IX.	Overall assessment of data	A	
X.	Field duplicates	N	
XI.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

water

1	RD-98_041211_01 ^D (D)	11		21		31
2	RD-98_041211_01 ^D DUP (D)	12		22		32
3	RD-98-041211-01 ^P (P)	13		23		33
4		14		24		34
5		15		25		35
6		16		26		36
7		17		27		37
8		18		28		38
9		19		29		39
10		20	PBW	30		40

Notes: D = dissolved
 P = particulate

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 12, 2011
LDC Report Date: May 26, 2011
Matrix: Water
Parameters: Tritium
Validation Level: Level V
Laboratory: TestAmerica Laboratories, Inc./Eberline Services
Sample Delivery Group (SDG): 280-14528-1/8993

Sample Identification

RD-98_041211_01
RD-98_041211_01DUP

Introduction

This data review covers 2 water samples listed on the cover sheet. The analyses were per EPA Method 906.0 for Tritium.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the isotope was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field blanks were identified in this SDG.

V. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

VIII. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-14528-1/8993	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Tritium - Data Qualification Summary - SDG 280-14528-1/8993**

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-14528-1/8993	RD-98_041211_01 RD-98_041211_01DUP	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Tritium - Laboratory Blank Data Qualification Summary - SDG 280-14528-1/8993**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Tritium - Field Blank Data Qualification Summary - SDG 280-14528-1/8993**

No Sample Data Qualified in this SDG

LDC #: 25473A34

VALIDATION COMPLETENESS WORKSHEET

Date: 5-20-11

SDG #: 280-14528-1/8993

Level IV V

Page: 1 of 1

Laboratory: Test America, Inc./Eberline Analytical

Reviewer: MG

2nd Reviewer: *[Signature]*

906.0

9/11

METHOD: Tritium (EPA Method 906)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4-12-11
II.	Initial calibration	N	
III.	Calibration verification	N	
IV.	Blanks	A	
V.	Matrix Spike/(Matrix Spike) Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS
VII.	Minimum detectable activity (MDA)	A	
VIII.	Sample result verification	N	
IX.	Overall assessment of data	A	
X.	Field duplicates	N	
XI.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	RD-98_041211_01	11		21		31	
2	RD-98_041211_01DUP	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20	PBW	30		40	

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 12, 2011
LDC Report Date: May 26, 2011
Matrix: Water
Parameters: Gamma Spectroscopy
Validation Level: Level V
Laboratory: TestAmerica Laboratories, Inc./Eberline Analytical
Sample Delivery Group (SDG): 280-14528-1/8993

Sample Identification

RD-98_041211_01D
RD-98_041211_01DDUP
RD-98_041211_01P

Samples appended with "D" were reported for dissolved
Samples appended with "P" were reported for particulate

Introduction

This data review covers 3 water samples listed on the cover sheet. The analyses were per EPA Method 901.1 for Gamma Spectroscopy.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the isotope was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the isotope was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field blanks were identified in this SDG.

V. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Minimum Detectable Activity

All minimum detectable activities met required detection limits with the following exceptions:

Sample	Isotope	RDL (pCi/L)	MDA (pCi/L)
RD-98_041211D_01	Potassium-40 Europium	25.0 6.00	34.2 8.36
RD-98_041211P_01	Potassium-40 Europium	25.0 6.00	31.4 7.17

VIII. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-14528-1/8993	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Gamma Spectroscopy - Data Qualification Summary - SDG 280-14528-1/8993**

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-14528-1/8993	RD-98_041211D_01 RD-98_041211P_01	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Gamma Spectroscopy - Laboratory Blank Data Qualification Summary - SDG 280-14528-1/8993**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Gamma Spectroscopy - Field Blank Data Qualification Summary - SDG 280-14528-1/8993**

No Sample Data Qualified in this SDG

METHOD: Gamma Spectroscopy (EPA Method 901.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4-12-11</u>
II.	Initial calibration	N	
III.	Calibration verification	N	
IV.	Blanks	A	
V.	Matrix Spike/(Matrix Spike) Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS
VII.	Minimum detectable activity (MDA)	SW	
VIII.	Sample result verification	N	
IX.	Overall assessment of data	A	
X.	Field duplicates	N	
XI.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:
Water

1	RD-98_041211_01 <u>D(D)</u>	11	21	31
2	RD-98_041211_01 <u>DUP (D)</u>	12	22	32
3	RD-98_041211_01 <u>(PT)</u>	13	23	33
4		14	24	34
5		15	25	35
6		16	26	36
7		17	27	37
8		18	28	38
9		19	29	39
10		20	PBW	40

Notes: D = dissolved
p = particulate

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 12, 2011
LDC Report Date: May 26, 2011
Matrix: Water
Parameters: Isotopic Uranium
Validation Level: Level V
Laboratory: TestAmerica Laboratories, Inc./Eberline Analytical
Sample Delivery Group (SDG): 280-14528-1/8993

Sample Identification

RD-98_041211_01D
RD-98_041211_01DDUP
RD-98_041211_01P

Samples appended with "D" were reported for dissolved
Samples appended with "P" were reported for particulate

Introduction

This data review covers 3 water samples listed on the cover sheet. The analyses were per EPA Method 908.0 for Isotopic Uranium.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the isotope was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field blanks were identified in this SDG.

V. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Tracer Recovery

All tracer recoveries were within validation criteria.

VIII. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

IX. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-14528-1/8993	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG

X. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Isotopic Uranium - Data Qualification Summary - SDG 280-14528-1/8993**

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-14528-1/8993	RD-98_041211_01D RD-98_041211_01P	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Isotopic Uranium - Laboratory Blank Data Qualification Summary - SDG 280-14528-1/8993**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Isotopic Uranium - Field Blank Data Qualification Summary - SDG 280-14528-1/8993**

No Sample Data Qualified in this SDG

METHOD: Isotopic Uranium (EPA Method 908.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4-12-11
II.	Initial calibration	N	
III.	Calibration verification	N	
IV.	Blanks	A	
V.	Matrix Spike/(Matrix Spike) Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS
VII.	Tracer Recovery	A	
VIII.	Minimum Detectable Activity (MDA)	A	
IX.	Sample result verification	N	
X.	Overall assessment of data	A	
XI.	Field duplicates	N	
XII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:
 water

1	RD-98_041211_01 ^{P(D)}	11		21		31	
2	RD-98_041211_01 ^P DUP (D)	12		22		32	
3	RD-98_041211_01 ^P	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20	PBW	30		40	

Notes: D = dissolved
 P = particulate

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 12, 2011
LDC Report Date: May 26, 2011
Matrix: Water
Parameters: Strontium-90
Validation Level: Level V
Laboratory: TestAmerica Laboratories, Inc./Eberline Analytical
Sample Delivery Group (SDG): 280-14528-1/8993

Sample Identification

RD-98_041211_01D
RD-98_041211_01DDUP
RD-98_041211_01P

Samples appended with "D" were reported for dissolved
Samples appended with "P" were reported for particulate

Introduction

This data review covers 3 water samples listed on the cover sheet. The analyses were per EPA Method 905.0 for Strontium-90.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the isotope was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field blanks were identified in this SDG.

V. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Carrier Recovery

All carrier recoveries were within validation criteria.

VIII. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

IX. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-14528-1/8993	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Strontium-90 - Data Qualification Summary - SDG 280-14528-1/8993**

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-14528-1/8993	RD-98_041211_01D RD-98_041211_01P	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Strontium-90 - Laboratory Blank Data Qualification Summary - SDG 280-14528-1/8993**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Strontium-90 - Field Blank Data Qualification Summary - SDG 280-14528-1/8993**

No Sample Data Qualified in this SDG

LDC #: 25473A61 **VALIDATION COMPLETENESS WORKSHEET**

Date: 5-20-11

SDG #: 280-14528-1/8993 Level V

Page: 1 of 1

Laboratory: Test America Laboratories, Inc./Eberline Analytical

Reviewer: MG

2nd Reviewer: [Signature]

METHOD: Strontium-90 (EPA Method 905.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4-12-11
II.	Initial calibration	N	
III.	Calibration verification	N	
IV.	Blanks	A	
V.	Matrix Spike/(Matrix Spike) Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS
VII.	Carrier recovery	A	
VIII.	Minimum detectable activity (MDA)	A	
IX.	Sample result verification	N	
X.	Overall assessment of data	A	
XI.	Field duplicates	N	
XII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:
 water

1	RD-98_041211_01 ^D (D)	11		21		31	
2	RD-98_041211_01 ^D DUP(D)	12		22		32	
3	RD-98_041211_01 ^P (P)	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20	PBW	30		40	

Notes: D = dissolved
 P = particulate



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 27, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

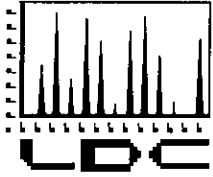
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 16, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25473:

<u>SDG #</u>	<u>Fraction</u>
280-14528-1/ 8993	Gross Alpha & Beta, Gamma Spectroscopy, Strontium-90, Tritium, Isotopic Uranium
280-14967-1/ IUD2440/ A1D230423	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Pentachlorophenol, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane, Organophosphorus Pesticides, Hexachloroethane, Formaldehyde, Hydrazine
280-14974-1/ H1D260440 280-15013-1 280-15079-1/ H1D300402 280-15128-1/ H1D300401 280-15187-1/ H1D300410	Dioxins/Dibenzofurans

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010



- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 22, 2011

LDC Report Date: May 26, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14967-1

Sample Identification

RD-43A_042211_01
RD-43B_042211_01
RD-43C_042211_01
RD-38B_042211_01
TB_RD-38B_042211
HAR-02_042211_01
TB_HAR-02_042211
RD-48C_042211_01
RD-77_042211_01
HAR-25_042211_01
TB_HAR-25_042211
RD-45B_042211_01
RD-45C_042211_01
RD-38B_042211_01MS
RD-38B_042211_01MSD

Introduction

This data review covers 15 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-65884/6	5/4/11	Methylene chloride	0.526 ug/L	HAR-02_042211_01 HAR-25_042211_01 TB_HAR-25_042211 RD-45C_042211_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
HAR-02_042211_01	Methylene chloride	0.50 ug/L	5.0U ug/L
HAR-25_042211_01	Methylene chloride	0.64 ug/L	5.0U ug/L
TB_HAR-25_042211	Methylene chloride	0.59 ug/L	5.0U ug/L
RD-45C_042211_01	Methylene chloride	0.53 ug/L	5.0U ug/L

Samples TB_RD-38B_042211, TB_HAR-02_042211, and TB_HAR-25_042211 were identified as trip blanks. No volatile contaminants were found in these blanks with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
TB_HAR-25_042211	4/22/11	Acetone Methylene chloride	5.1 ug/L 0.59 ug/L	HAR-25_042211_01 RD-45B_042211_01 RD-45C_042211_01

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No volatile contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No volatile contaminants were found in this blank.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
HAR-25_042211_01	Methylene chloride	0.64 ug/L	5.0U ug/L
RD-45C_042211_01	Methylene chloride	0.53 ug/L	5.0U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
RD-43A_042211_01	Toluene-d8 Bromofluorobenzene	111 (88-110) 116 (86-115)	All TCL compounds	J (all detects)	P
RD-38B_042211_01	1,2-Dichloroethane-d4	72 (80-120)	All TCL compounds	J (all detects) UJ (all non-detects)	A
TB_HAR-02_042211	Dibromofluoromethane 1,2-Dichloroethane-d4	122 (86-118) 156 (80-120)	All TCL compounds except Acrolein Acrylonitrile	J (all detects)	A
RD-77_042211_01	Toluene-d8 Bromofluorobenzene	111 (88-110) 117 (86-115)	All TCL compounds	J (all detects)	A

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
MB 280-65616/6	1,2-Dichloroethane-d4	71 (80-12)	All TCL compounds	J (all detects) UJ (all non-detects)	P
MB 280-65630/6	1,2-Dichloroethane-d4	121 (80-120)	All TCL compounds	J (all detects)	P

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D 280-65616/4,5 (RD-43A_042211_01 RD-43B_042211_01 RD-43C_042211_01 RD-38B_042211_01 TB_RD-38B_042211 RD-48C_042211_01 RD-77_042211_01 RD-45B_042211_01 MB 280-65616/6)	Methyl ethyl ketone	124 (57-120)	135 (57-120)	-	J (all detects)	P
LCS/D 280-65630/5,10 (TB_HAR-02_042211 MB 280-65630/6)	Benzene	-	75 (77-120)	-	J (all detects) UJ (all non-detects)	P
LCS/D 280-65884/4,5 (HAR-02_042211_01 HAR-25_042211_01 TB_HAR-25_042211 MB 280-65884/6)	Dichlorodifluoromethane	-	-	28 (≤24)	J (all detects) UJ (all non-detects)	P
LCS/D 280-65884/4,5 (HAR-02_042211_01 HAR-25_042211_01 TB_HAR-25_042211 RD-45C_042211_01 MB 280-65884/6)	Trichlorofluoromethane	-	-	21 (≤20)	J (all detects) UJ (all non-detects)	P

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14967-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-14967-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14967-1	RD-43A_042211_01	All TCL compounds	J (all detects)	P	Surrogate spikes (%R)(S)
280-14967-1	RD-38B_042211_01	All TCL compounds	J (all detects) UJ (all non-detects)	A	Surrogate spikes (%R)(S)
280-14967-1	TB_HAR-02_042211	All TCL compounds except Acrolein Acrylonitrile	J (all detects)	A	Surrogate spikes (%R)(S)
280-14967-1	RD-77_042211_01	All TCL compounds	J (all detects)	A	Surrogate spikes (%R)(S)
280-14967-1	RD-43A_042211_01 RD-43B_042211_01 RD-43C_042211_01 RD-38B_042211_01 TB_RD-38B_042211 RD-48C_042211_01 RD-77_042211_01 RD-45B_042211_01	Methyl ethyl ketone	J (all detects)	P	Laboratory control samples (%R)(L)
280-14967-1	TB_HAR-02_042211	Benzene	J (all detects) UJ (all non-detects)	P	Laboratory control samples (%R)(L)
280-14967-1	HAR-02_042211_01 HAR-25_042211_01 TB_HAR-25_042211	Dichlorodifluoromethane	J (all detects) UJ (all non-detects)	P	Laboratory control samples (RPD)(E)
280-14967-1	HAR-02_042211_01 HAR-25_042211_01 TB_HAR-25_042211 RD-45C_042211_01	Trichlorofluoromethane	J (all detects) UJ (all non-detects)	P	Laboratory control samples (RPD)(E)
280-14967-1	RD-43A_042211_01 RD-43B_042211_01 RD-43C_042211_01 RD-38B_042211_01 TB_RD-38B_042211 HAR-02_042211_01 TB_HAR-02_042211 RD-48C_042211_01 RD-77_042211_01 HAR-25_042211_01 TB_HAR-25_042211 RD-45B_042211_01 RD-45C_042211_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-14967-1**

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-14967-1	HAR-02_042211_01	Methylene chloride	5.0U ug/L	A	B
280-14967-1	HAR-25_042211_01	Methylene chloride	5.0U ug/L	A	B
280-14967-1	TB_HAR-25_042211	Methylene chloride	5.0U ug/L	A	B
280-14967-1	RD-45C_042211_01	Methylene chloride	5.0U ug/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
 Volatiles - Field Blank Data Qualification Summary - SDG 280-14967-1**

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-14967-1	HAR-25_042211_01	Methylene chloride	5.0U ug/L	A	T
280-14967-1	RD-45C_042211_01	Methylene chloride	5.0U ug/L	A	T

LDC #: 25473B1a
 SDG #: 280-14967-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/25/11
 Page: 1 of 1
 Reviewer: Me
 2nd Reviewer: Q

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/22/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	SW	LCS / D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	TB = 5 7 11 *FB = PB_041411_19 (280-14655-1) *EB = EB_SH-04_040711 (280-14379-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 *ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	RD-43A_042211_01	11	TB HAR-25_042211	21	MB 280-63855/4 (FFAP, 6666)	31
2	RD-43B_042211_01	12	RD-45B_042211_01	22	MB 280-65616/6	32
3	RD-43C_042211_01	13	RD-45C_042211_01	23	MB 280-65670/6	33
4	RD-38B_042211_01	14	RD-38B_042211_01MS	24	MB 280-65884/6	34
5	TB RD-38B_042211	15	RD-38B_042211_01MSD	25		35
6	HAR-02_042211_01	16		26		36
7	TB HAR-02_042211	17		27		37
8	RD-48C_042211_01	18		28		38
9	RD-77_042211_01	19		29		39
10	HAR-25_042211_01	20		30		40

VOCs + IPA = 1-5, 8, 9, 12, 13
 VOCs, IPA, APP IX, A, A = 6, 7, 10, 11

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC. 1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl chloride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

VALIDATION FINDINGS WORKSHEET

Surrogate Spikes

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Were all surrogate %R within QC limits?

Y (N) N/A If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R out of outside of criteria?

#	Date	Sample ID	Surrogate	%Recovery (Limits)	Qualifications
		1	TOL	111 (88-110)	J/dets/p (all TCL) (S)
			BFB	116 (86-115)	
		4	DCE	72 (80-120)	J/HJ/A (all TCL)
		7	DFM	122 (86-118)	J/dets/A (qual all except FFFF 696)
			DCE	156 (80-120)	
		9	TOL	111 (88-110)	(all TCL)
			BFB	117 (86-115)	
		MB 280-65616/6	DCE	71 (80-120)	J/HJ/p
		MB 280-65630/6	DCE	121	J/dets/p

QC Limits (Soil)
 85-115
 85-120
 60-120
 75-125

QC Limits (Water)
 85-120
 75-120
 70-120
 85-115

SMC1 (TOL) = Toluene-d8
 SMC2 (BFB) = Bromofluorobenzene
 SMC3 (DCE) = 1,2-Dichloroethane-d4
 SMC4 (DFM) = Dibromofluoromethane

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 22, 2011
LDC Report Date: May 25, 2011
Matrix: Water
Parameters: 1,4-Dioxane
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14967-1

Sample Identification

RD-43A_042211_01
RD-43B_042211_01
RD-43C_042211_01
RD-38B_042211_01
TB_RD-38B_042211
HAR-02_042211_01
TB_HAR-02_042211
RD-48C_042211_01
RD-77_042211_01
HAR-25_042211_01
TB_HAR-25_042211
RD-45B_042211_01
RD-45C_042211_01
RD-38B_042211_01MS
RD-38B_042211_01MSD

Introduction

This data review covers 15 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-dioxane was found in the method blanks.

Samples TB_RD-38B_04221, TB_HAR-02_042211, and TB_HAR-25_042211 were identified as trip blanks. No 1,4-dioxane was found in these blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No 1,4-dioxane was found in this blank.

Sample FB_041911_19 (from SDG 280-14655-1) was identified as a field blank. No 1,4-dioxane was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14967-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 1,4-Dioxane - Data Qualification Summary - SDG 280-14967-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14967-1	RD-43A_042211_01 RD-43B_042211_01 RD-43C_042211_01 RD-38B_042211_01 TB_RD-38B_042211 HAR-02_042211_01 TB_HAR-02_042211 RD-48C_042211_01 RD-77_042211_01 HAR-25_042211_01 TB_HAR-25_042211 RD-45B_042211_01 RD-45C_042211_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-14967-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-14967-1**

No Sample Data Qualified in this SDG

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/22/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS 10
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 5, 7, 11 FB = FB-041411-19 (280-14655-1) EB = EB-SH-04-040711 (280-14379-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	RD-43A_042211_01	11	TB_HAR-25_042211	21	MD 280-64986/5	31
2	RD-43B_042211_01	12	RD-45B_042211_01	22	MD 280-64990/26	32
3	RD-43C_042211_01	13	RD-45C_042211_01	23		33
4	RD-38B_042211_01	14	RD-38B_042211_01MS	24		34
5	TB_RD-38B_042211	15	RD-38B_042211_01MSD	25		35
6	HAR-02_042211_01	16		26		36
7	TB_HAR-02_042211	17		27		37
8	RD-48C_042211_01	18		28		38
9	RD-77_042211_01	19		29		39
10	HAR-25_042211_01	20		30		40

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 22, 2011

LDC Report Date: May 25, 2011

Matrix: Water

Parameters: 1,2,3-Trichloropropane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14967-1/IUD2440

Sample Identification

RD-43A_042211_01

RD-43B_042211_01

RD-43C_042211_01

RD-38B_042211_01

HAR-02_042211_01

TB_HAR-02_042211

RD-48C_042211_01

RD-77_042211_01

HAR-25_042211_01

TB_HAR-25_042211

RD-45B_042211_01

RD-45C_042211_01

RD-38B_042211_01MS

RD-38B_042211_01MSD

RD-45B_042211_01DUP

Introduction

This data review covers 15 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-trichloropropane was found in the method blanks.

Samples TB_HAR-02_042211 and TB_HAR-25_042211 were identified as trip blanks. No 1,2,3-trichloropropane was found in these blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No 1,2,3-trichloropropane was found in this blank.

Sample FB_041911_19 (from SDG 280-14655-1) was identified as a field blank. No 1,2,3-trichloropropane was found in this blank.

VI. Surrogate Spikes

Surrogate spikes were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Raw data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14967-1/IUD2440	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011

1,2,3-Trichloropropane - Data Qualification Summary - SDG 280-14967-1/IUD2440

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14967-1/IUD2440	RD-43A_042211_01 RD-43B_042211_01 RD-43C_042211_01 RD-38B_042211_01 HAR-02_042211_01 TB_HAR-02_042211 RD-48C_042211_01 RD-77_042211_01 HAR-25_042211_01 TB_HAR-25_042211 RD-45B_042211_01 RD-45C_042211_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011

1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG 280-14967-1/IUD2440

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011

1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG 280-14967-1/IUD2440

No Sample Data Qualified in this SDG

LDC #: 25473B1c **VALIDATION COMPLETENESS WORKSHEET**

SDG #: 280-14967-1/IUD2440

Level: V

Laboratory: Test America, Inc.

Date: 5/25/11

Page: 1 of 1

Reviewer: JVB

2nd Reviewer: [Signature]

METHOD: GC/MS 1,2,3-Trichloropropane (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4 / 22 / 11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates Lab Dup	A/A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 6, 10 FB = FB_041411_19 (280-14655-1); EB = EB_SIT04_040711 (280-14379-1);

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	RD-43A_042211_01	11	RD-45B_042211_01	21	11 D3439 - Blk1	31
2	RD-43B_042211_01	12	RD-45C_042211_01	22	11 D3635 - ↓	32
3	RD-43C_042211_01	13	RD-38B_042211_01MS	23		33
4	RD-38B_042211_01	14	RD-38B_042211_01MSD	24		34
5	HAR-02_042211_01	15	RD-45B_042211_01DUP	25		35
6	TB_HAR-02_042211	16		26		36
7	RD-48C_042211_01	17		27		37
8	RD-77_042211_01	18		28		38
9	HAR-25_042211_01	19		29		39
10	TB_HAR-25_042211	20		30		40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 22, 2011

LDC Report Date: May 26, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14967-1

Sample Identification

RD-43A_042211_01
RD-43B_042211_01
RD-43C_042211_01
RD-38B_042211_01
HAR-02_042211_01
RD-48C_042211_01
RD-77_042211_01
HAR-25_042211_01
RD-45B_042211_01
RD-45C_042211_01
RD-38B_042211_01MS
RD-38B_042211_01MSD

Introduction

This data review covers 12 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No semivolatile contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No semivolatile contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14967-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-14967-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14967-1	RD-43A_042211_01 RD-43B_042211_01 RD-43C_042211_01 RD-38B_042211_01 HAR-02_042211_01 RD-48C_042211_01 RD-77_042211_01 HAR-25_042211_01 RD-45B_042211_01 RD-45C_042211_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-14967-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-14967-1**

No Sample Data Qualified in this SDG

LDC #: 25473B2a
 SDG #: 280-14967-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/25/11
 Page: 1 of 1
 Reviewer: JM
 2nd Reviewer: _____

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/22/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS / D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	FB = FB_041411_19 (280-14655-1) EB = EB_SH-04_040711 (280-14379-1)

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

1	RD-43A_042211_01	11	RD-38B_042211_01MS	21	NB 280-63993/1-A	31
2	RD-43B_042211_01	12	RD-38B_042211_01MSD	22		32
3	RD-43C_042211_01	13		23		33
4	RD-38B_042211_01	14		24		34
5	HAR-02_042211_01	15		25		35
6	RD-48C_042211_01	16		26		36
7	RD-77_042211_01	17		27		37
8	HAR-25_042211_01	18		28		38
9	RD-45B_042211_01	19		29		39
10	RD-45C_042211_01	20		30		40

Phthalates + NB = 1-4, 6, 7, 9, 10
 App IX = 5, 8

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 22, 2011

LDC Report Date: May 26, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14967-1

Sample Identification

RD-43A_042211_01
RD-43B_042211_01
RD-43C_042211_01
RD-38B_042211_01
HAR-02_042211_01
RD-48C_042211_01
RD-77_042211_01
HAR-25_042211_01
RD-45B_042211_01
RD-45C_042211_01
RD-38B_042211_01MS
RD-38B_042211_01MSD

Introduction

This data review covers 12 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-nitrosodimethylamine was found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No N-nitrosodimethylamine was found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No N-nitrosodimethylamine was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14967-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-14967-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14967-1	RD-43A_042211_01 RD-43B_042211_01 RD-43C_042211_01 RD-38B_042211_01 HAR-02_042211_01 RD-48C_042211_01 RD-77_042211_01 HAR-25_042211_01 RD-45B_042211_01 RD-45C_042211_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary – SDG 280-14967-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-14967-1**

No Sample Data Qualified in this SDG

LDC #: 25473B2b
 SDG #: 280-14967-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/25/11
 Page: 1 of 1
 Reviewer: Mb
 2nd Reviewer: [Signature]

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4 / 22 / 11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS / D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	FB = FB_041411_19 (280-14645-1) EB = EB_0404040711 (280-14379-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	RD-43A_042211_01	11	RD-38B_042211_01MS	21	MD 280-64238/1-A	31
2	RD-43B_042211_01	12	RD-38B_042211_01MSD	22		32
3	RD-43C_042211_01	13		23		33
4	RD-38B_042211_01	14		24		34
5	HAR-02_042211_01	15		25		35
6	RD-48C_042211_01	16		26		36
7	RD-77_042211_01	17		27		37
8	HAR-25_042211_01	18		28		38
9	RD-45B_042211_01	19		29		39
10	RD-45C_042211_01	20		30		40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 22, 2011

LDC Report Date: May 26, 2011

Matrix: Water

Parameters: Pentachlorophenol

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14967-1

Sample Identification

HAR-02_042211_01

HAR-25_042211_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Pentachlorophenol.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No pentachlorophenol was found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No pentachlorophenol was found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No pentachlorophenol was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14967-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Data Qualification Summary - SDG 280-14967-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14967-1	HAR-02_042211_01 HAR-25_042211_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Laboratory Blank Data Qualification Summary - SDG 280-14967-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Field Blank Data Qualification Summary - SDG 280-14967-1**

No Sample Data Qualified in this SDG

METHOD: GC/MS Pentachlorophenol (EPA SW846 Method 8270C-2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/22/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS 1b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	FB = FB_041411_19 (280-4655-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

EB = EB_SH-04-040711 (280-14379-1)
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	HAR-02_042211_01	11	MB 280-64101 / 1-A	21	31
2	HAR-25_042211_01	12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 22, 2011

LDC Report Date: May 26, 2011

Matrix: Water

Parameters: Chlorinated Pesticides

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14967-1

Sample Identification

HAR-02_042211_01

HAR-25_042211_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticides were found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No chlorinated pesticides were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No chlorinated pesticides were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Column	Surrogate	%R (Limits)	Compound	Flag	A or P
MB 280-63968/1-A	1	Tetrachloro-m-xylene	44 (60-140)	All TCL compounds	J (all detects) UJ (all non-detects)	P
MB 280-63968/1-A	2	Tetrachloro-m-xylene	44 (60-140)	All TCL compounds	J (all detects) UJ (all non-detects)	P

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

Raw data were not reviewed for this SDG.

XIII. Compound Quantitation and Reported CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14967-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Data Qualification Summary - SDG 280-14967-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14967-1	HAR-02_042211_01 HAR-25_042211_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 280-14967-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Field Blank Data Qualification Summary - SDG 280-14967-1**

No Sample Data Qualified in this SDG

LDC #: 25473B3a
 SDG #: 280-14967-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/25/11
 Page: 1 of 1
 Reviewer: *M*
 2nd Reviewer: *[Signature]*

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/22/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS 1B
IX.	Regional quality assurance and quality control	N	
X.	Florisil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation and reported CRQLs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates	N	
XVI.	Field blanks	NB	FB = FB-041411-19 (280-14655-1) EB = EB-SH-04-040711 (280-14379-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinse
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: *Water*

1	HAR-02_042211_01	11	<i>MB 280-63938/1-A</i>	21		31
2	HAR-25_042211_01	12		22		32
3		13		23		33
4		14		24		34
5		15		25		35
6		16		26		36
7		17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

Surrogate Spikes

Reviewer: JVC

2nd Reviewer: [Signature]

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Please see qualification below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were surrogates spiked into all samples, standards and blanks?

Y N N/A Did all surrogate percent recoveries (%R) meet the QC limits?

#	Date	Sample ID	Column	Surrogate Compound	%R (Limits)	Qualifications
		MB 280-63968 / 1-A	CB-1	A	44 (60-140)	J / NJ / P (S) ↓
			CB-2	A	44 ()	↓
					()	
					()	
					()	
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					()	
					()	
					()	

Letter Designation	Surrogate Compound	Recovery QC Limits (Soil)	Recovery QC Limits (Water)	Comments
A	Tetrachoro-m-xylene			
B	Decachlorobiphenyl			

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 22, 2011

LDC Report Date: May 25, 2011

Matrix: Water

Parameters: Polychlorinated Biphenyls

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14967-1

Sample Identification

HAR-02_042211_01

HAR-25_042211_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No polychlorinated biphenyl contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No polychlorinated biphenyl contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

Raw data were not reviewed for this SDG.

XIII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14967-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Data Qualification Summary - SDG 280-14967-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14967-1	HAR-02_042211_01 HAR-25_042211_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 280-14967-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG 280-14967-1**

No Sample Data Qualified in this SDG

LDC #: 25473B3b
 SDG #: 280-14967-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level IV

Date: 5/25/11
 Page: 1 of 1
 Reviewer: SVL
 2nd Reviewer: [Signature]

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/22/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	SWA	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS 1p
IX.	Regional quality assurance and quality control	N	
X.	Florisil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation and reported CRQLs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates	N	
XVI.	Field blanks	ND	FB = FB_041411_17 (280-14655-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

EB = EB_SH-04_040711 (280-14379-1)
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: Water

1	HAR-02_042211_01	11	MB 280-63968/1-A	21	31
2	HAR-25_042211_01	12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 22, 2011
LDC Report Date: May 23, 2011
Matrix: Water
Parameters: Metals
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14967-1

Sample Identification

HAR-02_042211_01
RD-77_042211_01
HAR-25_042211_01
HAR-02_042211_01F
RD-77_042211_01F
HAR-25_042211_01F
HAR-02_042211_01MS
HAR-02_042211_01MSD
HAR-02_042211_01FMS
HAR-02_042211_01FMSD
RD-77_042211_01FMS
RD-77_042211_01FMSD

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 12 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B, 6020, and 7000 for Metals. The metals analyzed were Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No metal contaminants were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Sodium	0.391 mg/L	HAR-02_042211_01F RD-77_042211_01F
PB (prep blank)	Sodium	0.117 mg/L	HAR-02_042211_01 RD-77_042211_01
PB (prep blank)	Tin	0.00127 mg/L	HAR-02_042211_01F HAR-25_042211_01F

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
HAR-02_042211_01F	Tin	0.00052 mg/L	0.00052U mg/L
HAR-25_042211_01F	Tin	0.00078 mg/L	0.00078U mg/L

Samples EB_SH-04-040711 and EB_SH-04-040711F (both from SDG 280-14379-1) were identified as equipment blanks. No metal contaminants were found in the preparation blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_SH-04-040711	4/7/11	Tin Mercury	0.00028 mg/L 0.000037 mg/L	HAR-02_042211_01
EB_SH-04-040711F	4/7/11	Silver Tin Mercury	0.000018 mg/L 0.000030 mg/L 0.000034 mg/L	HAR-02_042211_01F

Samples FB_041411_19 and FB041411_19F (both from SDG 280-14655-1) were identified as field blanks. No metal contaminants were found in the preparation blanks with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_041411_19	4/14/11	Iron	0.030 mg/L	HAR-02_042211_01
FB_041411_19F	4/14/11	Iron Manganese Sodium Tin	0.082 mg/L 0.0012 mg/L 0.29 mg/L 0.00017 mg/L	HAR-02_042211_01F

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
HAR-02_042211_01	Iron Tin	0.14 mg/L 0.00036 mg/L	0.14U mg/L 0.00036U mg/L
HAR-02_042211_01F	Tin	0.00052 mg/L	0.00052U mg/L

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Analyte	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS (HAR-02_042211_01 HAR-25_042211_01)	Mercury	88 (90-115)	-	-	J (all detects) UJ (all non-detects)	P

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution data were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-14967-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Data Qualification Summary - SDG 280-14967-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-14967-1	HAR-02_042211_01 HAR-25_042211_01	Mercury	J (all detects) UJ (all non-detects)	P	Laboratory control samples (%R) (L)
280-14967-1	HAR-02_042211_01 RD-77_042211_01 HAR-25_042211_01 HAR-02_042211_01F RD-77_042211_01F HAR-25_042211_01F	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Laboratory Blank Data Qualification Summary - SDG 280-14967-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-14967-1	HAR-02_042211_01F	Tin	0.00052U mg/L	A	B
280-14967-1	HAR-25_042211_01F	Tin	0.00078U mg/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Field Blank Data Qualification Summary - SDG 280-14967-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-14967-1	HAR-02_042211_01	Iron Tin	0.14U mg/L 0.00036U mg/L	A	F
280-14967-1	HAR-02_042211_01F	Tin	0.00052U mg/L	A	F

LDC #: 25473B4
 SDG #: 280-14967-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5-19-11
 Page: 1 of 1
 Reviewer: MG
 2nd Reviewer: [Signature]

METHOD: Metals (EPA SW 846 Method 6010B/6020/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4-22-11</u>
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	A	MS/MSD
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	SW	LCS/LCSD
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	not utilized
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	FB = FB-041411-19 } SDG: 280-14655-1
XIV.	Field Duplicates	N	FB = FB-041411-19F }
XV.	Field Blanks	SW	EB = EB-SH-04-040711 } SDG: 280-14379-1 EB = EB-SH-04-040711F }

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

1	HAR-02_042211_01	11	RD-77_042211_01FMS	21		31	
2	RD-77_042211_01	12	RD-77_042211_01FMSD	22		32	
3	HAR-25_042211_01	13		23		33	
4	HAR-02_042211_01F	14		24		34	
5	RD-77_042211_01F	15		25		35	
6	HAR-25_042211_01F	16		26		36	
7	HAR-02_042211_01MS	17		27		37	
8	HAR-02_042211_01MSD	18		28		38	
9	HAR-02_042211_01FMS	19		29	PBW 1	39	
10	HAR-02_042211_01FMSD	20		30	PBW 2	40	

Notes: Samples appended with "F" were analyzed for dissolved metals

**VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES**

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000) Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 4, 5 (>5x)

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	No Qual's.								
Na		0.391		1.955									

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000) Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 1, 2 (>5x)

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	No Qual's.								
Na		0.117		0.585									

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000) Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 4, 6 Qual: U (B)

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	4	6							
Sn		0.00127		0.00635	0.00052	0.00078							

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

VALIDATION FINDINGS WORKSHEET
Field Blanks

LDC #: 25473B4

METHOD: Trace Metals (EPA SW846 6010B/7000)

Y/N N/A Were field blanks identified in this SDG?
 Y/N N/A Were target analytes detected in the field blanks?

Blank units: mg/L **Associated sample units:** mg/L

Soil factor applied: NA

Sampling date: 4/14/11 **Field Blank / Rinsate / Other:**

Associated Samples: 1 **Qual:** U (F)

Analyte	Blank ID	Action Level	1	0.15	0.14	Sample Identification				
Fe	FB_041411_19									

Blank units: mg/L **Associated sample units:** mg/L

Soil factor applied: NA

Sampling date: 4/14/11 **Field Blank / Rinsate / Other:**

Associated Samples: 4 **Qual:** U (F)

Analyte	Blank ID	Action Level	4	0.41	0.006	1.45	0.00085	0.00052	Sample Identification				
Fe	FB_041411_19F												
Mn													
Na													
Sn													

Blank units: mg/L **Associated sample units:** mg/L

Soil factor applied: NA

Sampling date: 4/7/11 **Field Blank / Rinsate / Other:** EB

Associated Samples: 1 **Qual:** U (F)

Analyte	Blank ID	Action Level	1	0.0014	0.00036	0.000037	0.000185	Sample Identification					
Sn	EB_SH-04_040711												
Hg													

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)
 Y **N** **N/A** Were field blanks identified in this SDG?
 Y **N** **N/A** Were target analytes detected in the field blanks?
Blank units: mg/L **Associated sample units:** mg/L
Soil factor applied: NA
Sampling date: 4/7/11 **Field blank type:** (circle one) Field Blank / Rinsate / Other **EB**
Associated Samples: 4 **Qual:** U (F)

Analyte	Blank ID	Action Level	Sample Identification				
	EB_SH-04_040711F	4					
Ag	0.000018	0.00009					
Sn	0.00030	0.0015	0.00052				
Hg	0.000034	0.00017					

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 22, 2011

LDC Report Date: May 26, 2011

Matrix: Water

Parameters: Herbicides

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14967-1

Sample Identification

HAR-02_042211_01

HAR-25_042211_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8151A for Herbicides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No herbicide contaminants were found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No herbicide contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No herbicide contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/(Matrix Spike) Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D 280-64197/2,3-A (All samples in SDG 280-14967-1)	2,4-D	-	150 (15-140)	-	J (all detects)	P

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14967-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Data Qualification Summary - SDG 280-14967-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14967-1	HAR-02_042211_01 HAR-25_042211_01	2,4-D	J (all detects)	P	Laboratory control samples (%R) (L)
280-14967-1	HAR-02_042211_01 HAR-25_042211_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Laboratory Blank Data Qualification Summary - SDG 280-14967-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Field Blank Data Qualification Summary - SDG 280-14967-1**

No Sample Data Qualified in this SDG

LDC #: 25473B5

VALIDATION COMPLETENESS WORKSHEET

Date: 5/25/11

SDG #: 280-14967-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: *M*

2nd Reviewer: *[Signature]*

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/22/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client spec
VII.	Laboratory control samples	SW	LCS / D
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	FB = FB_041411-19 (280-14655-1) EB = EB_04-04-040711 (280-14379-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	HAR-02_042211_01	11	MB 280-64197/A	21		31	
2	HAR-25_042211_01	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

VALIDATION FINDINGS WORKSHEET

METHOD: GC HPLC

8310	8330	8151	8141	8141 (Con't)	8021B
A. Acenaphthene	A. HMX	A. 2,4-D	A. Dichlorvos	V. Fensulfothion	V. Benzene
B. Acenaphthylene	B. RDX	B. 2,4-DB	B. Mevinphos	W. Bolstar	CC. Toluene
C. Anthracene	C. 1,3,5-Trinitrobenzene	C. 2,4,5-T	C. Demeton-O	X. EPN	EE. Ethyl Benzene
D. Benzo(a)anthracene	D. 1,3-Dinitrobenzene	D. 2,4,5-TP	D. Demeton-S	Y. Azinphos-methyl	SSS. O-Xylene
E. Benzo(a)pyrene	E. Tetryl	E. Dinoseb	E. Ethoprop	Z. Coumaphos	RRR. MP-Xylene
F. Benzo(b)fluoranthene	F. Nitrobenzene	F. Dichlorprop	F. Naled	AA. Parathion	GG. Total Xylene
G. Benzo(g,h,i)perylene	G. 2,4,6-Trinitrotoluene	G. Dicamba	G. Sulfotep	BB. Trichloronate	
H. Benzo(k)fluoranthene	H. 4-Amino-2,6-dinitrotoluene	H. Dalapon	H. Phorate	CC. Trichlorinate	
I. Chrysene	I. 2-Amino-4,6-dinitrotoluene	I. MCPP	I. Dimethoate	DD. Trifluralin	
J. Dibenzo(a,h)anthracene	J. 2,4-Dinitrotoluene	J. MCPA	J. Diazinon	EE. Def	
K. Fluoranthene	K. 2,6-Dinitrotoluene	K. Pentachlorophenol	K. Disulfoton	FF. Prowl	
L. Fluorene	L. 2-Nitrotoluene	L. 2,4,5-TP (silvex)	L. Parathion-methyl	GG. Ethion	
M. Indeno(1,2,3-cd)pyrene	M. 3-Nitrotoluene	M. Silvex	M. Ronnel		
N. Naphthalene	N. 4-Nitrotoluene		N. Malathion		
O. Phenanthrene	O. Nitroglycerin		O. Chlorpyrifos		
P. Pyrene	P.		P. Fenthion		
Q.	Q		Q. Parathion-ethyl		
R.			R. Trichlorate		
S.			S. Merphos		
			T. Stirofos		
			U. Tokuthion		

Notes:

LDC #: 25473 BS

SDG #: METHOD: GC HPLC

VALIDATION FINDINGS WORKSHEET
 Laboratory Control Samples (LCS)

Page: 1 of 1

Reviewer: 2nd Reviewer:

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

 Y N N/A
 Y N N/A

Were a laboratory control samples (LCS) and laboratory control sample duplicate (LCSD) analyzed for each matrix in this SDG?
 Were the LCS percent recoveries (%R) and relative percent differences (RPD) within the QC limits?

Level I/ID Only

 Y N N/A

Was an LCS analyzed every 20 samples for each matrix or whenever a sample extraction was performed?

#	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	LCS ID 280-641472/23-A	A	()	150 (15-140)	()	All	J dots / P (L)
			()	()	()		
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**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 22, 2011
LDC Report Date: May 23, 2011
Matrix: Water
Parameters: Wet Chemistry
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14967-1

Sample Identification

RD-43A_042211_01
RD-43B_042211_01
RD-43C_042211_01
RD-38B_042211_01
HAR-02_042211_01
RD-48C_042211_01
RD-77_042211_01
HAR-25_042211_01
RD-45B_042211_01
RD-45C_042211_01
RD-38B_042211_01MS
RD-38B_042211_01MSD
RD-38B_042211_01DUP
HAR-02_042211_01MS
HAR-02_042211_01MSD
HAR-02_042211_01DUP
RD-77_042211_01MS
RD-77_042211_01MSD
RD-77_042211_01DUP
RD-45C_042211_01MS
RD-45C_042211_01MSD

Introduction

This data review covers 21 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Standard Method 2320B for Alkalinity, EPA Method 350.1 for Ammonia as Nitrogen, EPA Method 300.0 for Fluoride, Chloride, Nitrate, and Sulfate, Standard Method 2510B for Conductivity, EPA SW 846 Method 9012A for Cyanide, EPA Method 314.0 for Perchlorate, EPA SW 846 Method 9040B for pH, Standard Method 4500-S2 D for Sulfide, Standard Method 2540C for Total Dissolved Solids, and EPA Method 180.1 for Turbidity.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No metal contaminants were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_SH-04_040711	4/7/11	Fluoride Nitrate Ammonia as N Cyanide pH	0.11 mg/L 0.19 mg/L 0.091 mg/L 0.0020 mg/L 5.83 pH units	HAR-02_042211_01

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No contaminant concentrations were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_041411_19	4/14/11	pH	5.81 pH units	HAR-02_042211_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
HAR-02_042211_01	Ammonia as N Cyanide	0.066 mg/L 0.0029 mg/L	0.066U mg/L 0.0029U mg/L

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-14967-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-14967-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-14967-1	RD-43A_042211_01 RD-43B_042211_01 RD-43C_042211_01 RD-38B_042211_01 HAR-02_042211_01 RD-48C_042211_01 RD-77_042211_01 HAR-25_042211_01 RD-45B_042211_01 RD-45C_042211_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-14967-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-14967-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-14967-1	HAR-02_042211_01	Ammonia as N Cyanide	0.066U mg/L 0.0029U mg/L	A	F

LDC #: 25473B6
 SDG #: 280-14967-1
 Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5-19-11
 Page: 1 of 1
 Reviewer: MG
 2nd Reviewer:

METHOD: (Analyte) Alkalinity (SM2320B), Ammonia-N (EPA Method 350.1), Chloride, Fluoride, Nitrate, Sulfate (EPA Method 300.0), Conductivity (SM2510B), Cyanide (EPA SW846 Method 9012A), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B), Sulfide (SM4500-S2 D), TDS (SM2540C), Turbidity (EPA Method 180.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4-22-11
Ia.	Initial calibration	N	
Ib.	Calibration verification	N	
III.	Blanks	A	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/MSD
V	Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS/LCSD
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	FB = FB-041411-19 (SDG: 280-14655-1)
X	Field blanks	SW	EB = EB-SH-04-040711 (SDG: 280-14379-1)

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

1	RD-43A_042211_01	11	RD-38B_042211_01MS	21	RD-45C_042211_01MSD	31	
2	RD-43B_042211_01	12	RD-38B_042211_01MSD	22		32	
3	RD-43C_042211_01	13	RD-38B_042211_01DUP	23		33	
4	RD-38B_042211_01	14	HAR-02_042211_01MS	24		34	
5	HAR-02_042211_01	15	HAR-02_042211_01MSD	25		35	
6	RD-48C_042211_01	16	HAR-02_042211_01DUP	26		36	
7	RD-77_042211_01	17	RD-77_042211_01MS	27		37	
8	HAR-25_042211_01	18	RD-77_042211_01MSD	28		38	
9	RD-45B_042211_01	19	RD-77_042211_01DUP	29		39	PBW1
10	RD-45C_042211_01	20	RD-45C_042211_01MS	30		40	PBW2

Notes: _____

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter	
1→4, 6,9,10	W	pH TDS Cl (F) (NO ₃) NO ₂ SO ₄ PO ₄ ALK CN (NH ₃) TKN TOC CR ⁶⁺ (ClO ₄)	
5	↓	pH TDS Cl (F) (NO ₃) NO ₂ (SO ₄) PO ₄ ALK (CN) (NH ₃) TKN TOC CR ⁶⁺ (ClO ₄) (S) (Turb) (Cond)	
7		pH TDS Cl (F) (NO ₃) NO ₂ (SO ₄) PO ₄ ALK (CN) (NH ₃) TKN TOC CR ⁶⁺ (ClO ₄) (Turb) (Cond)	
8		pH TDS Cl (F) (NO ₃) NO ₂ SO ₄ PO ₄ ALK (CN) (NH ₃) TKN TOC CR ⁶⁺ (ClO ₄) (S)	
qc 11,12		pH TDS Cl (F) (NO ₃) NO ₂ SO ₄ PO ₄ ALK CN (NH ₃) TKN TOC CR ⁶⁺ (ClO ₄)	
13		pH TDS Cl (F) (NO ₃) NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ (ClO ₄)	
14,15		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄ (S)	
16		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄ (Turb) (Cond)	
17→19		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ (ClO ₄)	
↓ 20,21		↓	pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN (NH ₃) TKN TOC CR ⁶⁺ ClO ₄
			pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
			pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
			pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
			pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
			pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
			pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
			pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
			pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
			pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
			pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄	
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄	
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄	
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄	
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₄	

Comments: _____

VALIDATION FINDINGS WORKSHEET

Field Blanks

METHOD: Inorganics, EPA Method See Cover
 Y/N N/A Were field blanks identified in this SDG?
 Y/N N/A Were target analytes detected in the field blanks?
Blank units: mg/L **Associated sample units:** mg/L
Sampling date: 4/7/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: Other **EB** Associated Samples: 5 Qual: U (F)

Analyte	Blank ID	Action Limit	Sample Identification
	EB SH-04 040711		5
F	0.11	0.55	
NO3	0.19	0.95	
NH3-N	0.091	0.455	0.066
CN	0.0020	0.01	0.0029
pH (pH units)	5.83		

Blank units: mg/L **Associated sample units:** mg/L
Sampling date: 4/14/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: 5

Analyte	Blank ID	Action Limit	Sample Identification
	FB 041411 19		No Qual.
pH (pH units)	5.81		

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 22, 2011

LDC Report Date: May 25, 2011

Matrix: Water

Parameters: Diesel Range Organics

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14967-1

Sample Identification

RD-43A_042211_01
RD-43B_042211_01
RD-43C_042211_01
RD-38B_042211_01
HAR-02_042211_01
RD-48C_042211_01
RD-77_042211_01
HAR-25_042211_0
RD-45B_042211_01
RD-45C_042211_01
RD-38B_042211_01MS
RD-38B_042211_01MSD

Introduction

This data review covers 12 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were EPA SW 846 Method 8015B for Diesel Range Organics.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No diesel range organic contaminants were found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No diesel range organic contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No diesel range organic contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14967-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Data Qualification Summary - SDG 280-14967-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14967-1	RD-43A_042211_01 RD-43B_042211_01 RD-43C_042211_01 RD-38B_042211_01 HAR-02_042211_01 RD-48C_042211_01 RD-77_042211_01 HAR-25_042211_0 RD-45B_042211_01 RD-45C_042211_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Laboratory Blank Data Qualification Summary - SDG 280-14967-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Field Blank Data Qualification Summary - SDG 280-14967-1**

No Sample Data Qualified in this SDG

LDC #: 25473B8
 SDG #: 280-14967-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/25/11

Page: 1 of 1

Reviewer: JL

2nd Reviewer: [Signature]

EPA SW 846 / 8015B

METHOD: GC Diesel Range Organics (Oklahoma Department of Environmental Quality)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/22/11</u>
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	A	
VII.	Laboratory control samples	A	<u>LCS</u>
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	<u>FB = FB-041411-19 (280-14655-1)</u> <u>EB = EB-SH-04-040711 (280-14379-1)</u>

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

WATER

1	RD-43A_042211_01	11	RD-38B_042211_01MS	21	<u>MB 280-6392A/1-A</u>	31
2	RD-43B_042211_01	12	RD-38B_042211_01MSD	22		32
3	RD-43C_042211_01	13		23		33
4	RD-38B_042211_01	14		24		34
5	HAR-02_042211_01	15		25		35
6	RD-48C_042211_01	16		26		36
7	RD-77_042211_01	17		27		37
8	HAR-25_042211_01	18		28		38
9	RD-45B_042211_01	19		29		39
10	RD-45C_042211_01	20		30		40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 22, 2011
LDC Report Date: May 25, 2011
Matrix: Water
Parameters: 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14967-1

Sample Identification

HAR-02_042211_01
TB_HAR-02_042211
HAR-25_042211_01
TB_HAR-25_042211

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 504.1 for 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in the method blanks.

Samples TB_HAR-02_042211 and TB_HAR-25_042211 were identified as trip blanks. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in these blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14967-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Data Qualification Summary -
 SDG 280-14967-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14967-1	HAR-02_042211_01 TB_HAR-02_042211 HAR-25_042211_01 TB_HAR-25_042211	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Laboratory Blank Data
 Qualification Summary - SDG 280-14967-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Field Blank Data Qualification
 Summary - SDG 280-14967-1**

No Sample Data Qualified in this SDG

LDC #: 25473B10
 SDG #: 280-14967-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/25/11
 Page: 1 of 1
 Reviewer: NG
 2nd Reviewer: [Signature]

METHOD: GC 1,2-Dibromomethane & 1,2-Dibromo-3-chloropropane (EPA Method 504.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/22/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	LCS 1b
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	TB = 2, 4 FB = FB_041411-19 (280-14655-1) EB = EB_SH-04-040711 (280-14379-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	HAR-02_042211_01	11	MB 280-64315/1-A	21	31
2	TB_HAR-02_042211	12		22	32
3	HAR-25_042211_01	13		23	33
4	TB_HAR-25_042211	14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 22, 2011

LDC Report Date: May 25, 2011

Matrix: Water

Parameters: Organophosphorus Pesticides

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14967-1

Sample Identification

HAR-02_042211_01

HAR-25_042211_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8141A for Organophosphorus Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No organophosphorus pesticide contaminants were found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No organophosphorus pesticide contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No organophosphorus pesticide contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14967-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Data Qualification Summary - SDG 280-14967-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14967-1	HAR-02_042211_01 HAR-25_042211_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Laboratory Blank Data Qualification Summary - SDG 280-14967-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Field Blank Data Qualification Summary - SDG 280-14967-1**

No Sample Data Qualified in this SDG

LDC #: 25473B17

VALIDATION COMPLETENESS WORKSHEET

Date: 5/25/11

SDG #: 280-14967-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: M
2nd Reviewer: Q

METHOD: GC Organophosphorus Pesticides (EPA SW 846 Method 8141A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/22/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	LCS 1 D
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	FB = FB_041411_19 (280-14655-1) EB = EB_SH-04_040711 (280-14379-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	HAR-02_042211_01	11	MB 280-64026 /1-A	21		31
2	HAR-25_042211_01	12		22		32
3		13		23		33
4		14		24		34
5		15		25		35
6		16		26		36
7		17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 22, 2011

LDC Report Date: May 25, 2011

Matrix: Water

Parameters: Hexachlorophene

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14967-1

Sample Identification

HAR-02_042211_01

HAR-25_042211_01

HAR-02_042211_01MS

HAR-02_042211_01MSD

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8321A for Hexachlorophene.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No hexachlorophene was found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No hexachlorophene was found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No hexachlorophene was found in this blank.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14967-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Data Qualification Summary - SDG 280-14967-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14967-1	HAR-02_042211_01 HAR-25_042211_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Laboratory Blank Data Qualification Summary - SDG 280-14967-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Field Blank Data Qualification Summary - SDG 280-14967-1**

No Sample Data Qualified in this SDG

LDC #: 25473B44
 SDG #: 280-14967-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/25/11
 Page: 1 of 1
 Reviewer: *MG*
 2nd Reviewer: *Q*

METHOD: LC/MS Hexachlorophene (EPA SW 846 Method 8321A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/22/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	FB = FB-041411-19 (280-14655-1) EB = EB-5H-04-040711 (280-14379-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	HAR-02_042211_01	11	MB 280-63849/10	21		31
2	HAR-25_042211_01	12		22		32
3	HAR-02_042211_01MS	13		23		33
4	HAR-02_042211_01MSD	14		24		34
5		15		25		35
6		16		26		36
7		17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 22, 2011
LDC Report Date: May 26, 2011
Matrix: Water
Parameters: Formaldehyde
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14967-1/A1D230423

Sample Identification

RD-43A_042211_01
RD-43B_042211_01
RD-43C_042211_01
RD-38B_042211_01
RD-05A_042211_01
HAR-02_042211_01
RD-48C_042211_01
RD-77_042211_01
HAR-25_042211_01
RD-45B_042211_01
RD-45C_042211_01
RD-43C_042211_01MS
RD-43C_042211_01MSD
RD-38B_042211_01MS
RD-38B_042211_01MSD

Introduction

This data review covers 15 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
1113073-MB	4/23/11	Formaldehyde	12 ug/L	All samples in SDG 280-14967-1/A1D230423

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
RD-43B_042211_01	Formaldehyde	24 ug/L	50U ug/L
RD-43C_042211_01	Formaldehyde	22 ug/L	50U ug/L
RD-38B_042211_01	Formaldehyde	23 ug/L	50U ug/L
RD-05A_042211_01	Formaldehyde	29 ug/L	50U ug/L
RD-48C_042211_01	Formaldehyde	37 ug/L	50U ug/L
RD-77_042211_01	Formaldehyde	12 ug/L	50U ug/L
HAR-25_042211_01	Formaldehyde	12 ug/L	50U ug/L

Sample	Compound	Reported Concentration	Modified Final Concentration
RD-45B_042211_01	Formaldehyde	23 ug/L	50U ug/L
RD-45C_042211_01	Formaldehyde	25 ug/L	50U ug/L

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No formaldehyde was found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No formaldehyde was found in this blank.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14967-1/A1D230423	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Formaldehyde - Data Qualification Summary - SDG 280-14967-1/A1D230423**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14967-1/ A1D230423	RD-43A_042211_01 RD-43B_042211_01 RD-43C_042211_01 RD-38B_042211_01 RD-05A_042211_01 HAR-02_042211_01 RD-48C_042211_01 RD-77_042211_01 HAR-25_042211_01 RD-45B_042211_01 RD-45C_042211_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-14967-1/A1D230423**

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-14967-1/ A1D230423	RD-43B_042211_01	Formaldehyde	50U ug/L	A	B
280-14967-1/ A1D230423	RD-43C_042211_01	Formaldehyde	50U ug/L	A	B
280-14967-1/ A1D230423	RD-38B_042211_01	Formaldehyde	50U ug/L	A	B
280-14967-1/ A1D230423	RD-05A_042211_01	Formaldehyde	50U ug/L	A	B
280-14967-1/ A1D230423	RD-48C_042211_01	Formaldehyde	50U ug/L	A	B
280-14967-1/ A1D230423	RD-77_042211_01	Formaldehyde	50U ug/L	A	B
280-14967-1/ A1D230423	HAR-25_042211_01	Formaldehyde	50U ug/L	A	B
280-14967-1/ A1D230423	RD-45B_042211_01	Formaldehyde	50U ug/L	A	B
280-14967-1/ A1D230423	RD-45C_042211_01	Formaldehyde	50U ug/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Formaldehyde - Field Blank Data Qualification Summary - SDG 280-14967-
1/A1D230423**

No Sample Data Qualified in this SDG

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/22/11
II	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	SW	
V	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	A	
VII.	Laboratory control samples	A	LCS
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	FB = FB_041411_19 (280-14655-1) EB = EB_SH-09_040711 (280-14379-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	RD-43A_042211_01	11	RD-45C_042211_01	21	1113073-MB	31	
2	RD-43B_042211_01	12	RD-43C_042211_01MS	22		32	
3	RD-43C_042211_01	13	RD-43C_042211_01MSD	23		33	
4	RD-38B_042211_01	14	RD-38B_042211_01MS	24		34	
5	RD-05A_042211_01	15	RD-38B_042211_01MSD	25		35	
6	HAR-02_042211_01	16		26		36	
7	RD-48C_042211_01	17		27		37	
8	RD-77_042211_01	18		28		38	
9	HAR-25_042211_01	19		29		39	
10	RD-45B_042211_01	20		30		40	

Notes: _____

METHOD: GC / HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- Y N N/A Were all samples associated with a given method blank?
- Y N N/A Was a method blank performed for each matrix and whenever a sample extraction procedure was performed?
- Y N N/A Was a method blank performed with each extraction batch?
- Y N N/A Were any contaminants found in the method blanks? If yes, please see findings below.

Level (MD Only)

Y N N/A (Gasoline and aromatics only) Was a method blank analyzed with each 24 hour batch?

Y N N/A Was a method blank analyzed for each analytical/ extraction batch of ≤20 samples?

Blank extraction date: 4/23/11 Blank analysis date: 4/25/11

Conc. units: ug/L

Associated samples: A11

Code: B

Compound	Blank ID	Sample Identification						
	1113073-MB	2	3	4	5	7	8	9
Formaldehyde	12	24 / 50 U	22 / 50 U	23 / 50 U	29 / 50 U	37 / 50 U	12 / 50 U	12 / 50 U

Blank extraction date: _____

Blank analysis date: _____

Associated samples: Same as above

Conc. units: _____

Compound	Blank ID	Sample Identification						
	1113073-MB	10	11					
Formaldehyde	12	23 / 50 U	25 / 50 U					

ALL CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT: All contaminants within five times the method blank concentration were qualified as not detected, "U".

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 22, 2011
LDC Report Date: May 26, 2011
Matrix: Water
Parameters: Hydrazines
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14967-1

Sample Identification

RD-43A_042211_01
RD-43B_042211_01
RD-43C_042211_01
RD-38B_042211_01
HAR-02_042211_01
RD-48C_042211_01
RD-77_042211_01
HAR-25_042211_01
RD-45B_042211_01
RD-45C_042211_01
RD-38B_042211_01MS
RD-38B_042211_01MSD

Introduction

This data review covers 12 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DVWC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazine contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound	Concentration	Associated Samples
MB 280-64349/25	4/26/11	1,1-Dimethylhydrazine Monomethylhydrazine	3.49 ug/L 0.320 ug/L	All samples in SDG 280-14967-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No hydrazine contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No hydrazine contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG280-14967-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field blanks were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-14967-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14967-1	RD-43A_042211_01 RD-43B_042211_01 RD-43C_042211_01 RD-38B_042211_01 HAR-02_042211_01 RD-48C_042211_01 RD-77_042211_01 HAR-25_042211_01 RD-45B_042211_01 RD-45C_042211_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-14967-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-14967-1**

No Sample Data Qualified in this SDG

LDC #: 25473A76
 SDG #: 280-14967-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/25/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: HPLC Hydrazines (Method DVWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/22/11</u>
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	SW	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	A	
VII.	Laboratory control samples	A	LCS 1/D
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	FB = FB-041411-19 (280-14655-1) EB = EB-SH-04-040711 (280-14379-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: Water

1	RD-43A_042211_01	11	RD-38B_042211_01MS	21	MB 280-64349/25	31
2	RD-43B_042211_01	12	RD-38B_042211_01MSD	22		32
3	RD-43C_042211_01	13		23		33
4	RD-38B_042211_01	14		24		34
5	HAR-02_042211_01	15		25		35
6	RD-48C_042211_01	16		26		36
7	RD-77_042211_01	17		27		37
8	HAR-25_042211_01	18		28		38
9	RD-45B_042211_01	19		29		39
10	RD-45C_042211_01	20		30		40

Notes: _____

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter		
		(A)	(B)	(C)
A11	W	Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine

Comments: _____

Blanks

METHOD: GC / HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- Y N N/A Were all samples associated with a given method blank?
- Y N N/A Was a method blank performed for each matrix and whenever a sample extraction procedure was performed?
- Y N N/A Was a method blank performed with each extraction batch?
- Y N N/A Were any contaminants found in the method blanks? If yes, please see findings below.

Level WTD Only

- Y N N/A (Gasoline and aromatics only) Was a method blank analyzed with each 24 hour batch?
- Y N N/A Was a method blank analyzed for each analytical / extraction batch of ≤20 samples?

Blank extraction date: N/A Blank analysis date: 4/26/11 Associated samples: A11 (MD)

Conc. units: ug/L

Compound	Blank ID	Sample Identification
	MB 280 - 64349/25	
B	3.49	
C	0.320	

Blank extraction date: _____ Blank analysis date: _____ Associated samples: _____

Compound	Blank ID	Sample Identification

ALL CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT: All contaminants within five times the method blank concentration were qualified as not detected, "U".



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 27, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

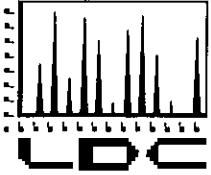
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 16, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25473:

<u>SDG #</u>	<u>Fraction</u>
280-14528-1/ 8993	Gross Alpha & Beta, Gamma Spectroscopy, Strontium-90, Tritium, Isotopic Uranium
280-14967-1/ IUD2440/ A1D230423	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Pentachlorophenol, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane, Organophosphorus Pesticides, Hexachloroethane, Formaldehyde, Hydrazine
280-14974-1/ H1D260440 280-15013-1 280-15079-1/ H1D300402 280-15128-1/ H1D300401 280-15187-1/ H1D300410	Dioxins/Dibenzofurans

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010



- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

LDC #25473 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane (8260B-S)		1,2,3-TCP (524-2)		SVOA (8270C)		PCP (8270C -LL)		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (OK-DEQ)		EDB (504.1)		Formaldehyde (8315)		Hexachloro-rophene (8321A)		OPHS Pest. (8141A)		Herbs (8151A)		Dioxins (8290)					
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S				
Matrix:	Water/Soil																																								
B	280-14967-1/ IUD2440/ A1D230423	05/16/11	06/07/11	13	0	13	0	12	0	10	0	2	0	10	0	2	0	2	0	2	0	3	0	3	0	10	0	4	0	11	0	2	0	2	0	2	0	2	0		
C	280-14974-1/ H1D260440	05/16/11	06/07/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0		
D	280-15013-1	05/16/11	06/07/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0		
E	280-15079-1/ H1D300402	05/16/11	06/07/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0		
F	280-15128-1/ H1D300401	05/16/11	06/07/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0		
G	280-15187-1/ H1D300410	05/16/11	06/07/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	0		
Total	T/PG			13	0	13	0	12	0	10	0	2	0	10	0	2	0	2	0	2	0	3	0	3	0	10	0	4	0	11	0	2	0	2	0	2	0	2	0	17	118

LDC #25473 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydra-zine (DVWC)		Alk. (2320B)		NH ₃ -N (350.1)		Cl SO ₄ (300.0)		F NO ₃ (300.0)		CN- (9012A)		Cond. (2510B)		ClO ₂ (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)		S= (4500 -S2 D)										
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S							
Matrix:	Water/Soil																																							
B	280-14967-1	05/16/11	06/07/11	10	0	10	0	10	0	2	0	10	0	2	0	2	0	10	0	2	0	2	0	10	0	10	0	2	0	2	0	2	0	2	0	2	0	2	0	
Total	T/PG			10	0	10	0	10	0	2	0	10	0	2	0	2	0	10	0	2	0	2	0	10	0	10	0	2	0	2	0	2	0	2	0	2	0	2	0	84

LDC #25473 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	Gross α&β (900.0)		Gamma Spec. (901.1)		Sr-90 (905.0)		Tritium (906.0)		Iso. U (908.0)	
				W	S	W	S	W	S	W	S	W	S
Matrix:	Water/Soil												
A	280-14528-1/ 8993	05/16/11	06/07/11	2	0	2	0	2	0	1	0	2	0
Total	T/PG			2	0	2	0	2	0	1	0	2	0

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 22, 2011

LDC Report Date: May 26, 2011

Matrix: Water

Parameters: Dioxins/Dibenzofurans

Validation Level: EPA Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14974-1/H1D260440

Sample Identification

HAR-02_042211_01

HAR-25_042211_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Routine Calibration (Continuing)

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14402-1) was identified as an equipment blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14659-1) was identified as a field blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

Internal standards data were not reviewed for Level V.

X. Target Compound Identifications

Raw data were not reviewed for this SDG.

XI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14974-1/H1D260440	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XII. System Performance

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-14974-1/H1D260440**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14974-1/ H1D260440	HAR-02_042211_01 HAR-25_042211_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-14974-1/H1D260440**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-14974-1/H1D260440**

No Sample Data Qualified in this SDG

LDC #: 25473C21 **VALIDATION COMPLETENESS WORKSHEET**

SDG #: 280-14974-1/H1D260440

Level V

Laboratory: Test America Inc.

Date: 5/25/11

Page: 1 of 1

Reviewer: JVG

2nd Reviewer: J

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/22/11
II.	HRGC/HRMS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Routine calibration/ICV	N	
V.	Blanks	A	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	LCS /D
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	N	
X.	Target compound identifications	N	
XI.	Compound quantitation and CRQLs	N	
XII.	System performance	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	ND	FB = FB_041411_19 (280-14659-1) EB = EB_SH-04-040711 (280-14402-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

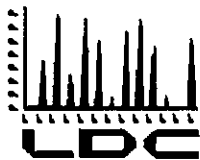
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	HAR-02_042211_01	11	118104-MB	21	31
2	HAR-25_042211_01	12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes:



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 27, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

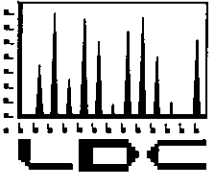
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 16, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25473:

<u>SDG #</u>	<u>Fraction</u>
280-14528-1/ 8993	Gross Alpha & Beta, Gamma Spectroscopy, Strontium-90, Tritium, Isotopic Uranium
280-14967-1/ IUD2440/ A1D230423	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Pentachlorophenol, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane, Organophosphorus Pesticides, Hexachloroethane, Formaldehyde, Hydrazine
280-14974-1/ H1D260440 280-15013-1 280-15079-1/ H1D300402 280-15128-1/ H1D300401 280-15187-1/ H1D300410	Dioxins/Dibenzofurans

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010



- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

LDC #25473 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane (8260B-S)		1,2,3-TCP (524-2)		SVOA (8270C)		PCP (8270C-LL)		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (OK-DEQ)		EDB (504.1)		Formaldehyde (8315)		Hexachloro-rophene (8321A)		OPHS Pest. (8141A)		Herbs (8151A)		Dioxins (8290)									
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S								
Matrix: Water/Soil																																													
B	280-14967-1/ IUD2440/ A1D230423	05/16/11	06/07/11	13	0	13	0	12	0	10	0	2	0	10	0	2	0	2	0	2	0	3	0	3	0	10	0	4	0	11	0	2	0	2	0	2	0	2	0	-	-				
C	280-14974-1/ H1D260440	05/16/11	06/07/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0				
D	280-15013-1	05/16/11	06/07/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0			
E	280-15079-1/ H1D300402	05/16/11	06/07/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0		
F	280-15128-1/ H1D300401	05/16/11	06/07/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0	
G	280-15187-1/ H1D300410	05/16/11	06/07/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	0
Total	T/PG			13	0	13	0	12	0	10	0	2	0	10	0	2	0	2	0	2	0	3	0	3	0	10	0	4	0	11	0	2	0	2	0	2	0	2	0	2	0	17	118		

LDC #25473 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydra-zine (DVWC)		Alk. (2320B)		NH ₃ -N (350.1)		Cl SO ₄ (300.0)		F NO ₃ (300.0)		CN- (9012A)		Cond. (2510B)		CLO ₂ (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)		S= (4500-S2D)												
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S									
Matrix: Water/Soil																																										
B	280-14967-1	05/16/11	06/07/11	10	0	10	0	10	0	2	0	10	0	2	0	2	0	10	0	2	0	2	0	10	0	10	0	2	0	2	0	2	0	2	0	2	0	2	0	2	0	
Total	T/PG			10	0	10	0	10	0	2	0	10	0	2	0	2	0	10	0	2	0	2	0	10	0	10	0	2	0	2	0	2	0	2	0	2	0	2	0	2	0	84

LDC #25473 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	Gross α&β (900.0)		Gamma Spec. (901.1)		Sr-90 (905.0)		Tritium (906.0)		Iso. U (908.0)	
				W	S	W	S	W	S	W	S	W	S
Matrix: Water/Soil													
A	280-14528-1/ 8993	05/16/11	06/07/11	2	0	2	0	2	0	1	0	2	0
Total	T/PG			2	0	2	0	2	0	1	0	2	0

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 25, 2011

LDC Report Date: May 26, 2011

Matrix: Water

Parameters: Dioxins/Dibenzofurans

Validation Level: EPA Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15013-1/H1D270520

Sample Identification

HAR-33_042511_01

ES-27_042511_01

ES-17_042511_01

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Routine Calibration (Continuing)

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

Internal standards data were not reviewed for Level V.

X. Target Compound Identifications

Raw data were not reviewed for this SDG.

XI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15013-1/H1D270520	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XII. System Performance

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-15013-1/H1D270520**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15013-1/H1D270520	HAR-33_042511_01 ES-27_042511_01 ES-17_042511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-15013-1/H1D270520**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-15013-1/H1D270520**

No Sample Data Qualified in this SDG

LDC #: 25473D21 **VALIDATION COMPLETENESS WORKSHEET**

SDG #: 280-15013-1/H1D270520

Level V

Laboratory: Test America Inc.

Date: 5/25/11

Page: 1 of 1

Reviewer: *[Signature]*

2nd Reviewer: *[Signature]*

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/25/11
II.	HRGC/HRMS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Routine calibration/ICV	N	
V.	Blanks	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client spec
VII.	Laboratory control samples	A	LOS / D
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	N	
X.	Target compound identifications	N	
XI.	Compound quantitation and CRQLs	N	
XII.	System performance	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

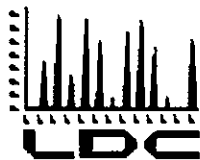
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	HAR-33_042511_01	11	118104 - MB	21	31
2	ES-27_042511_01	12		22	32
3	ES-17_042511_01	13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 27, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

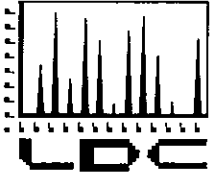
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 16, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25473:

<u>SDG #</u>	<u>Fraction</u>
280-14528-1/ 8993	Gross Alpha & Beta, Gamma Spectroscopy, Strontium-90, Tritium, Isotopic Uranium
280-14967-1/ IUD2440/ A1D230423	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Pentachlorophenol, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane, Organophosphorus Pesticides, Hexachloroethane, Formaldehyde, Hydrazine
280-14974-1/ H1D260440 280-15013-1 280-15079-1/ H1D300402 280-15128-1/ H1D300401 280-15187-1/ H1D300410	Dioxins/Dibenzofurans

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010



- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV LDC #25473 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane (8260B-S)		1,2,3-TCP (524-2)		SVOA (8270C)		PCP (8270C-LL)		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (OK-DEQ)		EDB (504.1)		Formaldehyde (8315)		Hexachloroethane (8321A)		OPHS Pest. (8141A)		Herbs (8151A)		Dioxins (8290)					
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S				
Matrix:	Water/Soil																																								
B	280-14967-1/ IUD2440/ A1D230423	05/16/11	06/07/11	13	0	13	0	12	0	10	0	2	0	10	0	2	0	2	0	2	0	3	0	3	0	10	0	4	0	11	0	2	0	2	0	2	0	2	0	17	118
C	280-14974-1/ H1D260440	05/16/11	06/07/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0	
D	280-15013-1	05/16/11	06/07/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0	
E	280-15079-1/ H1D300402	05/16/11	06/07/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0	
F	280-15128-1/ H1D300401	05/16/11	06/07/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0	
G	280-15187-1/ H1D300410	05/16/11	06/07/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	0	
Total	T/PG			13	0	13	0	12	0	10	0	2	0	10	0	2	0	2	0	2	0	3	0	3	0	10	0	4	0	11	0	2	0	2	0	2	0	2	0	17	118

Client Select IV LDC #25473 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydrazine (DVWC)		Alk. (2320B)		NH ₃ -N (350.1)		Cl SO ₄ (300.0)		F NO ₃ (300.0)		CN- (9012A)		Cond. (2510B)		ClO ₂ (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)		S= (4500-S2 D)											
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S								
Matrix:	Water/Soil																																								
B	280-14967-1	05/16/11	06/07/11	10	0	10	0	10	0	2	0	10	0	2	0	2	0	10	0	2	0	2	0	10	0	10	0	2	0	2	0	2	0	2	0	2	0	2	0	84	
Total	T/PG			10	0	10	0	10	0	2	0	10	0	2	0	2	0	10	0	2	0	2	0	10	0	10	0	2	0	2	0	2	0	2	0	2	0	2	0	84	

Client Select IV LDC #25473 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	Gross α&β (900.0)		Gamma Spec. (901.1)		Sr-90 (905.0)		Tritium (906.0)		Iso. U (908.0)	
				W	S	W	S	W	S	W	S	W	S
Matrix:	Water/Soil												
A	280-14528-1/ 8993	05/16/11	06/07/11	2	0	2	0	2	0	1	0	2	0
Total	T/PG			2	0	2	0	2	0	1	0	2	0

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 26, 2011

LDC Report Date: May 26, 2011

Matrix: Water

Parameters: Dioxins/Dibenzofurans

Validation Level: EPA Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15079-1/H1D300402

Sample Identification

PZ-139_042611_01
EB_PZ-139_042611
PZ-035_042611_01

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Routine Calibration (Continuing)

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks.

Samples EB_PZ-139_042611 and EB_SH-04_040711 (from SDG 280-14402-1) were identified as equipment blanks. No polychlorinated dioxin/dibenzofuran contaminants were found in these blanks.

Sample FB_041411_19 (from SDG 280-14659-1) was identified as a field blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

Internal standards data were not reviewed for Level V.

X. Target Compound Identifications

Raw data were not reviewed for this SDG.

XI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15079-1/H1D300402	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XII. System Performance

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-15079-1/H1D300402**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15079-1/ H1D300402	PZ-139_042611_01 EB_PZ-139_042611 PZ-035_042611_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-15079-1/H1D300402**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-15079-1/H1D300402**

No Sample Data Qualified in this SDG

LDC #: 25473E21

VALIDATION COMPLETENESS WORKSHEET

Date: 5/25/11

SDG #: 280-15079-1/H1D300402

Level V

Page: 1 of 1

Laboratory: Test America Inc.

Reviewer: *[Signature]*
2nd Reviewer: *[Signature]*

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/26/11
II.	HRGC/HRMS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Routine calibration/ICV	N	
V.	Blanks	A	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	LCS / D
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	N	
X.	Target compound identifications	N	
XI.	Compound quantitation and CRQLs	N	
XII.	System performance	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	ND	EB = 2, EB-SH-04_040711 (280-14402-1) FB = FB-041411-19 (280-14609-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

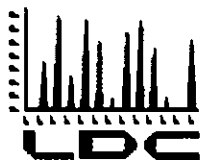
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1 ⁺	PZ-139_042611_01	11	11 22 057- MB	21		31	
2 ⁻	EB_PZ-139_042611	12		22		32	
3 ⁻	PZ-035_042611_01	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 27, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

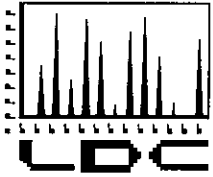
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 16, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25473:

<u>SDG #</u>	<u>Fraction</u>
280-14528-1/ 8993	Gross Alpha & Beta, Gamma Spectroscopy, Strontium-90, Tritium, Isotopic Uranium
280-14967-1/ IUD2440/ A1D230423	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Pentachlorophenol, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, 1,2-Dibromoethane & 1,2-Dibromo-3-chloroethane, Organophosphorus Pesticides, Hexachloroethane, Formaldehyde, Hydrazine
280-14974-1/ H1D260440 280-15013-1 280-15079-1/ H1D300402 280-15128-1/ H1D300401 280-15187-1/ H1D300410	Dioxins/Dibenzofurans

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010



- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV LDC #25473 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane (8260B-S)		1,2,3-TCP (524-2)		SVOA (8270C)		PCP (8270C -LL)		NDMA (1626)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (OK-DEQ)		EDB (504.1)		Formaldehyde (8315)		Hexachloro-rophene (8321A)		OPHS Pest. (8141A)		Herbs (8151A)		Dioxins (8290)			
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S		
B	280-14967-1/ IUD2440/ A1D230423	05/16/11	06/07/11	13	0	13	0	12	0	10	0	2	0	10	0	2	0	2	0	2	0	3	0	3	0	10	0	4	0	11	0	2	0	2	0	2	0	-	-
C	280-14974-1/ H1D260440	05/16/11	06/07/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0	
D	280-15013-1	05/16/11	06/07/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0	
E	280-15079-1/ H1D300402	05/16/11	06/07/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0	
F	280-15128-1/ H1D300401	05/16/11	06/07/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0	
G	280-15187-1/ H1D300410	05/16/11	06/07/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	0	
Total	T/PG			13	0	13	0	12	0	10	0	2	0	10	0	2	0	2	0	2	0	3	0	3	0	10	0	4	0	11	0	2	0	2	0	2	0	17	118

Client Select IV LDC #25473 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydra-zine (DVWC)		Alk. (2320B)		NH ₃ -N (350.1)		Cl SO ₄ (300.0)		F NO ₃ (300.0)		CN- (9012A)		Cond. (2510B)		CLO ₂ (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)		S= (4500 -S2 D)						
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S			
B	280-14967-1	05/16/11	06/07/11	10	0	10	0	10	0	2	0	10	0	2	0	10	0	2	0	2	0	2	0	10	0	10	0	2	0	2	0	2	0	2	0	
Total	T/PG			10	0	10	0	10	0	2	0	10	0	2	0	10	0	2	0	2	0	2	0	10	0	10	0	2	0	2	0	2	0	2	0	84

Client Select IV LDC #25473 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	Gross α&β (900.0)		Gamma Spec. (901.1)		Sr-90 (905.0)		Tritium (906.0)		Iso. U (908.0)	
				W	S	W	S	W	S	W	S	W	S
A	280-14528-1/ 8993	05/16/11	06/07/11	2	0	2	0	2	0	1	0	2	0
Total	T/PG			2	0	2	0	2	0	1	0	2	0

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 27, 2011

LDC Report Date: May 26, 2011

Matrix: Water

Parameters: Dioxins/Dibenzofurans

Validation Level: EPA Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15128-1/H1D300401

Sample Identification

RS-34_042711_01

PZ-060_042711_01

HAR-32_042711_01

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Routine Calibration (Continuing)

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14402-1) was identified as an equipment blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14659-1) was identified as a field blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

Internal standards data were not reviewed for Level V.

X. Target Compound Identifications

Raw data were not reviewed for this SDG.

XI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15128-1/H1D300401	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XII. System Performance

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-15128-1/H1D300401**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15128-1/ H1D300401	RS-34_042711_01 PZ-060_042711_01 HAR-32_042711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-15128-1/H1D300401**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-15128-1/H1D300401**

No Sample Data Qualified in this SDG

LDC #: 25473F21 **VALIDATION COMPLETENESS WORKSHEET**

SDG #: 280-15128-1/H1D300401

Level V

Laboratory: Test America Inc.

Date: 5/25/11

Page: 1 of 1

Reviewer: JVG

2nd Reviewer: [Signature]

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/27/11
II.	HRGC/HRMS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Routine calibration/ICV	N	
V.	Blanks	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	A	LCS 1D
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	N	
X.	Target compound identifications	N	
XI.	Compound quantitation and CRQLs	N	
XII.	System performance	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	ND	FB = FB_041411_19 (280-14659-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

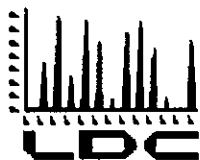
EB = EB_SH-04_040711 (280-14402-1)
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	RS-34_042711_01	11	1122057-MB	21		31	
2	PZ-060_042711_01	12		22		32	
3	HAR-32_042711_01	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 27, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

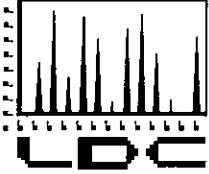
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 16, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25473:

<u>SDG #</u>	<u>Fraction</u>
280-14528-1/ 8993	Gross Alpha & Beta, Gamma Spectroscopy, Strontium-90, Tritium, Isotopic Uranium
280-14967-1/ IUD2440/ A1D230423	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Pentachlorophenol, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane, Organophosphorus Pesticides, Hexachloroethane, Formaldehyde, Hydrazine
280-14974-1/ H1D260440 280-15013-1 280-15079-1/ H1D300402 280-15128-1/ H1D300401 280-15187-1/ H1D300410	Dioxins/Dibenzofurans

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010



- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

LDC #25473 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane (8260B-S)		1,2,3-TCP (524.2)		SVOA (8270C)		PCP (8270C-LL)		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (OK-DEQ)		EDB (504.1)		Formaldehyde (8315)		Hexachloro-rophene (8321A)		OPHS Pest. (8141A)		Herbs (8151A)		Dioxins (8290)			
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
B	280-14957-1/ IUD2440/ A1D230423	05/16/11	06/07/11	13	0	13	0	12	0	10	0	2	0	10	0	2	0	2	0	3	0	3	0	10	0	4	0	11	0	2	0	2	0	2	0	2	0	17	118
C	280-14974-1/ H1D260440	05/16/11	06/07/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0	
D	280-15013-1	05/16/11	06/07/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0	
E	280-15079-1/ H1D300402	05/16/11	06/07/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0	
F	280-15128-1/ H1D300401	05/16/11	06/07/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0	
G	280-15187-1/ H1D300410	05/16/11	06/07/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	0	
Total	T/PG			13	0	13	0	12	0	10	0	2	0	10	0	2	0	2	0	3	0	3	0	10	0	4	0	11	0	2	0	2	0	2	0	2	0	17	118

LDC #25473 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydra-zine (DVWC)		Alk (2320B)		NH ₃ -N (350.1)		Cl SO ₄ (300.0)		F NO ₃ (300.0)		Cond. (2510B)		ClO ₂ (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)		S= (4500 -S2 D)							
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S		
B	280-14967-1	05/16/11	06/07/11	10	0	10	0	10	0	2	0	10	0	2	0	10	0	2	0	10	0	10	0	2	0	2	0	2	0	2	0	2	0	0	84
Total	T/PG			10	0	10	0	10	0	2	0	10	0	2	0	10	0	2	0	10	0	10	0	2	0	2	0	2	0	2	0	2	0	0	84

LDC #25473 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	Gross α&β (900.0)		Gamma Spec. (901.1)		Sr-90 (905.0)		Tritium (906.0)		Iso. U (908.0)	
				W	S	W	S	W	S	W	S	W	S
A	280-14528-1/ 8993	05/16/11	06/07/11	2	0	2	0	2	0	1	0	2	0
Total	T/PG			2	0	2	0	2	0	1	0	2	0

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 28, 2011
LDC Report Date: May 26, 2011
Matrix: Water
Parameters: Dioxins/Dibenzofurans
Validation Level: EPA Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-15187-1/H1D300410

Sample Identification

RS-13_042811_01
PZ-147_042811_01
EB_PZ-147_042811
PZ-148_042811_01
EB_PZ-148_042811
HAR-30_042811_01

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Routine Calibration (Continuing)

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks.

Samples EB_PZ-147_042811, EB_PZ-148_042811, and EB_SH-04_040711 (from SDG 280-14402-1) were identified as equipment blanks. No polychlorinated dioxin/dibenzofuran contaminants were found in these blanks.

Sample FB_041411_19 (from SDG 280-14659-1) was identified as a field blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

Internal standards data were not reviewed for Level V.

X. Target Compound Identifications

Raw data were not reviewed for this SDG.

XI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15187-1/H1D300410	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XII. System Performance

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-15187-1/H1D300410**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15187-1/ H1D300410	RS-13_042811_01 PZ-147_042811_01 EB_PZ-147_042811 PZ-148_042811_01 EB_PZ-148_042811 HAR-30_042811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-15187-1/H1D300410**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-15187-1/H1D300410**

No Sample Data Qualified in this SDG

LDC #: 25473G21 **VALIDATION COMPLETENESS WORKSHEET**

SDG #: 280-15187-1/H1D300410

Level V

Laboratory: Test America Inc.

Date: 5/25/11

Page: 1 of 1

Reviewer: JV

2nd Reviewer: [Signature]

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/28/11
II.	HRGC/HRMS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Routine calibration/ICV	N	
V.	Blanks	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client spec
VII.	Laboratory control samples	A	LCS 10
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	N	
X.	Target compound identifications	N	
XI.	Compound quantitation and CRQLs	N	
XII.	System performance	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	ND	EB = 3 5 EB_SH-04_040711 (280-14402-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

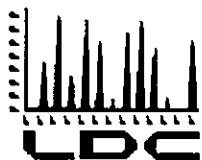
D = Duplicate
TB = Trip blank
EB = Equipment blank

FB = FB_041411-19 (280-14659-1)

Validated Samples: Water

1	RS-13_042811_01	11	1122057-MB	21		31
2	PZ-147_042811_01	12		22		32
3	EB_PZ-147_042811	13		23		33
4	PZ-148_042811_01	14		24		34
5	EB_PZ-148_042811	15		25		35
6	HAR-30_042811_01	16		26		36
7		17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

Notes: _____



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 31, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

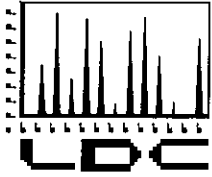
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 17, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25476:

<u>SDG #</u>	<u>Fraction</u>
280-17967-2	Perchlorate
280-15011-1/ IUD2600 /A1D260505	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Pentachlorophenol, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane, Organophosphorus Pesticides, Hexachloroethane, Formaldehyde, Hydrazine

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV,



February 2007

Please feel free to contact us if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Pei Geng'.

Pei Geng

Project Manager/Senior Chemist

Client Select IV LDC #25476 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane (8260B-S)		1,2,3-TCP (524.2)		SVOA (8270C)		PCP (8270C -LL)		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (OK-DEQ)		EDB (504.1)		Formaldehyde (8315)		Hexachloroethene (8321A)		OPHS Pest. (8147A)		Herbs (8151A)			
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S		
Matrix:	Water/Soil																																				
B	280-15011/ IUD2600 /A1D260505	05/17/11	06/08/11	10	0	10	0	8	0	8	0	3	0	8	0	3	0	3	0	3	0	3	0	7	0	5	0	7	0	3	0	3	0	3	0		
Total	T/PG			10	0	10	0	8	0	8	0	3	0	8	0	3	0	3	0	3	0	3	0	7	0	5	0	7	0	3	0	3	0	3	0	3	0

Client Select IV LDC #25468 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydrazine (DVWC)		CLO ₄ (6860)		Alk. (2320B)		NH ₃ -N (350.1)		CI SO ₄ (300.0)		F NO ₃ (300.0)		CN- (9012A)		Cond. (2510B)		CLO ₄ (314.0)		pH (9040B)		Turb. (180.1)		TDS (2440C)		S= (4500 -S2 D)				
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	
Matrix:	Water/Soil																																			
A	280-14967-2	05/17/11	06/08/11	-	-	-	-	-	-	3	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
B	280-15011-1	05/17/11	06/08/11	7	0	7	0	7	0	-	-	1	0	7	0	1	0	7	0	3	0	1	0	7	0	7	0	1	0	1	0	1	0	3	0	
Total	T/PG			7	0	7	0	7	0	3	0	1	0	7	0	1	0	7	0	3	0	1	0	7	0	7	0	1	0	1	0	1	0	3	0	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 25, 2011

LDC Report Date: May 26, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15011-1

Sample Identification

HAR-33_042511_01
TB_HAR-33_042511
RD-53_042511_01
TB_RD-53_042511
RD-45A_042511_01
RD-03_042511_01
RD-02_042511_01
ES-27_042511_01
TB_ES-27_042511
ES-17_042511_01
HAR-33_042511_01MS
HAR-33_042511_01MSD
RD-02_042511_01MS
RD-02_042511_01MSD
ES-17_042511_01MS
ES-17_042511_01MSD

Introduction

This data review covers 16 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-66615/6	5/9/11	Trichloroethene	0.537 ug/L	TB_ES-27_042511

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
TB_ES-27_042511	Trichloroethene	0.42 ug/L	1.0U ug/L

Samples TB_HAR-33_042511, TB_RD-53_042511, and TB_ES-27_042511 were identified as trip blanks. No volatile contaminants were found in these blanks with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
TB_HAR-33_042511	4/25/11	Acetone Methylene chloride	15 ug/L 0.46 ug/L	HAR-33_042511_01
TB_RD-53_042511	4/25/11	Methylene chloride	0.75 ug/L	RD-53_042511_01 RD-45A_042511_01 RD-03_042511_01 RD-02_042511_01
TB_ES-27_042511	4/25/11	Trichloroethene	0.42 ug/L	ES-27_042511_01 ES-17_042511_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
HAR-33_042511_01	Acetone	9.4 ug/L	10U ug/L
RD-45A_042511_01	Methylene chloride	0.38 ug/L	5.0U ug/L
RD-02_042511_01	Methylene chloride	6.1 ug/L	50U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
HAR-33_042511_01	1,2-Dichloroethane-d4	79 (80-120)	Acrolein Acrylonitrile	J (all detects) UJ (all non-detects)	A
TB_HAR-33_042511	Toluene-d8	116 (88-110)	All TCL compounds except Acrolein Acrylonitrile	J (all detects)	A
RD-02_042511_01	Dibromofluoromethane Toluene-d8	119 (86-118) 117 (88-110)	All TCL compounds except cis-1,2-Dichloroethene Trichloroethene	J (all detects) J (all detects)	A

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
ES-17_042511_01	Toluene-d8	118 (88-110)	All TCL compounds except Acrolein Acrylonitrile cis-1,2-Dichloroethene Trichloroethene 1,1,2-Trichloro-1,2,2-trifluoroethane	J (all detects)	A

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
RD-02_042511_01MS/MSD (RD-02_042511_01)	cis-1,2-Dichloroethene	60 (75-120)	-	-	J (all detects) UJ (all non-detects)	A
	Trichloroethene	57 (78-122)	75 (78-122)	-	J (all detects) UJ (all non-detects)	
RD-02_042511_01MS/MSD (RD-02_042511_01)	Trichlorofluoromethane	136 (63-135)	138 (63-135)	-	J (all detects)	A
ES-17_042511_01MS/MSD (ES-17_042511_01)	1,1,2,2-Tetrachloroethane	75 (77-120)	-	-	J (all detects) UJ (all non-detects)	A
	Bromoform	73 (74-121)	-	-		
	Carbon disulfide	52 (56-120)	-	-		
	Carbon tetrachloride	73 (80-120)	-	-		
	Dibromochloromethane	73 (76-120)	-	-		
	Methylene chloride	51 (60-134)	-	31 (≤20)		

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS 280-66378/4 (HAR-33_042511_01 TB_HAR-33_042511 RD-53_042511_01 TB_RD-53_042511 RD-45A_042511_01 RD-03_042511_01 RD-02_042511_01 ES-27_042511_01 ES-17_042511_01 MB 280-66378/5)	Carbon tetrachloride	121 (80-120)	-	-	J (all detects)	P

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D 280-66615/5,13 (TB_ES-27_042511 MB 280-66615/5)	Carbon tetrachloride Dibromochloromethane Methylene chloride	78 (80-120) - 59 (60-134)	79 (80-120) 75 (76-120) 59 (60-134)	- - -	J (all detects) UJ (all non-detects)	P

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15011-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-15011-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15011-1	HAR-33_042511_01	Acrolein Acrylonitrile	J (all detects) UJ (all non-detects)	A	Surrogate spikes (%R) (S)
280-15011-1	TB_HAR-33_042511	All TCL compounds except Acrolein Acrylonitrile	J (all detects)	A	Surrogate spikes (%R) (S)
280-15011-1	RD-02_042511_01	All TCL compounds except cis-1,2-Dichloroethene Trichloroethene	J (all detects) J (all detects)	A	Surrogate spikes (%R) (S)
280-15011-1	ES-17_042511_01	All TCL compounds except Acrolein Acrylonitrile cis-1,2-Dichloroethene Trichloroethene 1,1,2-Trichloro-1,2,2-trifluoroethane	J (all detects)	A	Surrogate spikes (%R) (S)
280-15011-1	RD-02_042511_01	cis-1,2-Dichloroethene Trichloroethene	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
280-15011-1	RD-02_042511_01	Trichlorofluoromethane	J (all detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
280-15011-1	ES-17_042511_01	1,1,2,2-Tetrachloroethane Bromoform Carbon disulfide Carbon tetrachloride Dibromochloromethane	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
280-15011-1	ES-17_042511_01	Methylene chloride	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R)(RPD) (Q)
280-15011-1	HAR-33_042511_01 TB_HAR-33_042511 RD-53_042511_01 TB_RD-53_042511 RD-45A_042511_01 RD-03_042511_01 RD-02_042511_01 ES-27_042511_01 ES-17_042511_01	Carbon tetrachloride	J (all detects)	P	Laboratory control samples (%R)(L)
280-15011-1	TB_ES-27_042511	Carbon tetrachloride Dibromochloromethane Methylene chloride	J (all detects) UJ (all non-detects)	P	Laboratory control samples (%R)(L)

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15011-1	HAR-33_042511_01 TB_HAR-33_042511 RD-53_042511_01 TB_RD-53_042511 RD-45A_042511_01 RD-03_042511_01 RD-02_042511_01 ES-27_042511_01 TB_ES-27_042511 ES-17_042511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011

Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-15011-1

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-15011-1	TB_ES-27_042511	Trichloroethene	1.0U ug/L	A	B

Boeing SSFL GW 2nd Qtr, 2011

Volatiles - Field Blank Data Qualification Summary - SDG 280-15011-1

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-15011-1	HAR-33_042511_01	Acetone	10U ug/L	A	T
280-15011-1	RD-45A_042511_01	Methylene chloride	5.0U ug/L	A	T
280-15011-1	RD-02_042511_01	Methylene chloride	50U ug/L	A	T

LDC #: 25476B1a

VALIDATION COMPLETENESS WORKSHEET

Date: 5/25/11

SDG #: 280-15011-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JMB

2nd Reviewer: [Signature]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/25/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	SW	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	TB = 2, 4, 9

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	HAR-33_042511_01	11	HAR-33_042511_01MS	21	MB 280-64240/6	31	(FFM, 6666)
2	TB HAR-33_042511	12	HAR-33_042511_01MSD	22	MB 280-66378/5	32	
3	RD-53_042511_01	13	RD-02_042511_01MS	23	MB 280-66615/5	33	
4	TB RD-53_042511	14	RD-02_042511_01MSD	24		34	
5	RD-45A_042511_01	15	ES-17_042511_01MS	25		35	
6	RD-03_042511_01	16	ES-17_042511_01MSD	26		36	
7	RD-02_042511_01	17		27		37	
8	ES-27_042511_01	18		28		38	
9	TB ES-27_042511	19		29		39	
10	ES-17_042511_01	20		30		40	

VOCs, IPA, APPIX, A, A = 1, 2, 8-10
 VOCs, IPA = 3-7

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC. 1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl chloride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-influoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

VALIDATION FINDINGS WORKSHEET
Surrogate Spikes

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y () N/A Were all surrogate %R within QC limits?
Y () N/A If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R out of outside of criteria?

#	Date	Sample ID	Surrogate	%Recovery (Limits)	Qualifications
		1	DCE	79 (80-120)	JUS / A (good FFFF, 666 only)
		2	TOL	116 (88-110)	J detts / A (all except FFFF, 666)
		7	DFM	119 (86-118)	(all except 888, S)
			TOL	117 (88-110)	
		10	TOL	118 (88-110)	(all except FFFF, 666, 888, S, III)

QC Limits (Soil) 85-115
 85-120
 60-120
 75-125

QC Limits (Water) 85-120
 75-120
 70-120
 85-115

SMC1 (TOL) = Toluene-d8
 SMC2 (BFB) = Bromofluorobenzene
 SMC3 (DCE) = 1,2-Dichloroethane-d4
 SMC4 (DFM) = Dibromofluoromethane

LDC #: 25476 B1A

VALIDATION FINDINGS WORKSHEET Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: JG
2nd Reviewer: Q

METHOD : GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

N N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	13/14	QQA	60 (75-120)	()	()	7	J/MJ/A (a)
		S	57 (78-122)	75 (78-122)	()		
		KK	136 (63-135)	138 (63-135)	()		J/MJ/A
			()	()	()		
			()	()	()		
	15/16	UU	75 (77-120)	()	()	10	J/MJ/A
		X	73 (74-121)	()	()		
		G	52 (56-120)	()	()		
		O	73 (80-120)	()	()		
		T	73 (76-120)	()	()		
		E	51 (60-134)	()	31 (20)		
			()	()	()		
			()	()	()		
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Compound		QC Limits (Soil)	RPD (Soil)	QC Limits (Water)	RPD (Water)
H.	1,1-Dichloroethene	59-172%	< 22%	61-145%	< 14%
S.	Trichloroethene	62-137%	< 24%	71-120%	< 14%
V.	Benzene	66-142%	< 21%	76-127%	< 11%
CC.	Toluene	59-139%	< 21%	76-125%	< 13%
DD.	Chlorobenzene	60-133%	< 21%	75-130%	< 13%

VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples (LCS)

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y **N** **N/A**
 Y **N** **N/A**

Was a LCS required?
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?

#	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	LCS 280-66378/4	0	121 (80-120)	()	()	1-8 10 MB280-66378/5	J acts / P (L)
	LCS/b 280-66615/5, 13	0	78 (80-120)	79 (80-120)	()	9, MB 280-66615/6	J/45 / P
		T	()	75 (76-120)	()		
		E	59 (60-134)	59 (60-134)	()		
			()	()	()		
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**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 25, 2011

LDC Report Date: May 26, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15011-1

Sample Identification

HAR-33_042511_01
TB_HAR-33_042511
RD-53_042511_01
TB_RD-53_042511
RD-45A_042511_01
RD-03_042511_01
RD-02_042511_01
ES-27_042511_01
TB_ES-27_042511
ES-17_042511_01

Introduction

This data review covers 10 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-dioxane was found in the method blanks.

Samples TB_HAR-33_042511, TB_RD-53_042511, and TB_ES-27_042511 were identified as trip blanks. No 1,4-dioxane was found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG280-15011-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-15011-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15011-1	HAR-33_042511_01 TB_HAR-33_042511 RD-53_042511_01 TB_RD-53_042511 RD-45A_042511_01 RD-03_042511_01 RD-02_042511_01 ES-27_042511_01 TB_ES-27_042511 ES-17_042511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-15011-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-15011-1**

No Sample Data Qualified in this SDG

LDC #: 25476B1b **VALIDATION COMPLETENESS WORKSHEET**

SDG #: 280-15011-1

Level: V

Laboratory: Test America Laboratories, Inc.

Date: 5/25/11

Page: 1 of 1

Reviewer: JV6

2nd Reviewer: [Signature]

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/25/11</u>
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	<u>Client Spec</u>
VIII.	Laboratory control samples	A	<u>les / D</u>
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	<u>TB = 2, 4, 9</u>

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	HAR-33_042511_01	11	<u>MB 280-6490/26</u>	21	31
2	TB HAR-33_042511	12		22	32
3	RD-53_042511_01	13		23	33
4	TB_RD-53_042511	14		24	34
5	RD-45A_042511_01	15		25	35
6	RD-03_042511_01	16		26	36
7	RD-02_042511_01	17		27	37
8	ES-27_042511_01	18		28	38
9	TB_ES-27_042511	19		29	39
10	ES-17_042511_01	20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 25, 2011

LDC Report Date: May 26, 2011

Matrix: Water

Parameters: 1,2,3-Trichloropropane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15011-1/IUD2600

Sample Identification

HAR-33_042511_01
TB_HAR-33_042511
RD-53_042511_01
RD-45A_042511_01
RD-03_042511_01
ES-27_042511_01
TB_ES-27_042511
ES-17_042511_01
ES-17_042511_01DUP

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-trichloropropane was found in the method blanks.

Samples TB_HAR-33_042511 and TB_ES-27_042511 were identified as trip blanks. No 1,2,3-trichloropropane was found in these blanks.

VI. Surrogate Spikes

Surrogate spikes were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Raw data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15011-1/IUD2600	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 1,2,3-Trichloropropane - Data Qualification Summary - SDG 280-15011-1/IUD2600**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15011-1/IUD2600	HAR-33_042511_01 TB_HAR-33_042511 RD-53_042511_01 RD-45A_042511_01 RD-03_042511_01 ES-27_042511_01 TB_ES-27_042511 ES-17_042511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG 280-15011-1/IUD2600**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG 280-15011-1/IUD2600**

No Sample Data Qualified in this SDG

METHOD: GC/MS 1,2,3-Trichloropropane (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4 / 25 / 11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates / Lab Dup	N / A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 2, 7

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: Water

1	HAR-33_042511_01	11	11 D 3635 - Blk 1	21	31
2	TB HAR-33_042511	12	11 D 3808 - ↓	22	32
3	RD-53_042511_01	13		23	33
4	RD-45A_042511_01	14		24	34
5	RD-03_042511_01	15		25	35
6	ES-27_042511_01	16		26	36
7	TB ES-27_042511	17		27	37
8	ES-17_042511_01	18		28	38
9	ES-17_042511_01DUP	19		29	39
10		20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 25, 2011

LDC Report Date: May 26, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15011-1

Sample Identification

HAR-33_042511_01
RD-52A_042511_01
RD-53_042511_01
RD-45A_042511_01
RD-03_042511_01
RD-02_042511_01
ES-27_042511_01
ES-17_042511_01

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15011-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-15011-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15011-1	HAR-33_042511_01 RD-52A_042511_01 RD-53_042511_01 RD-45A_042511_01 RD-03_042511_01 RD-02_042511_01 ES-27_042511_01 ES-17_042511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-15011-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-15011-1**

No Sample Data Qualified in this SDG

LDC #: 25476B2a
 SDG #: 280-15011-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/25/11
 Page: 1 of 1
 Reviewer: NB
 2nd Reviewer: Q

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/25/11</u>
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	<u>Client spec</u>
VIII.	Laboratory control samples	A	<u>LGS / D</u>
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

water

1	HAR-33_042511_01	11	<u>MB 280-64396/1-A</u>	21	31
2	RD-52A_042511_01	12		22	32
3	RD-53_042511_01	13		23	33
4	RD-45A_042511_01	14		24	34
5	RD-03_042511_01	15		25	35
6	RD-02_042511_01	16		26	36
7	ES-27_042511_01	17		27	37
8	ES-17_042511_01	18		28	38
9		19		29	39
10		20		30	40

APP IX = 1, 7, 8

Phthalates, NB = 2-5

Phthalates, NB, A = 6

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 25, 2011
LDC Report Date: May 26, 2011
Matrix: Water
Parameters: N-Nitrosodimethylamine
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-15011-1

Sample Identification

HAR-33_042511_01
RD-52A_042511_01
RD-53_042511_01
RD-45A_042511_01
RD-03_042511_01
RD-02_042511_01
ES-27_042511_01
ES-17_042511_01

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-nitrosodimethylamine was found in the method blanks.

Samples FB_RD-45A_042511_19, FB_RD-02_042511_19 and FB_ES-17_042511_19 (from SDG 280-15011-2) were identified as field blanks. No N-nitrosodimethylamine was found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15011-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RD-45A_042511_01 and RD-45A_042511_36 (from SDG 280-15011-2), samples RD-02_042511_01 and RD-02_042511_36 (from SDG 280-15011-2), and samples ES-17_042511_01 and ES-17_042511_36 (from SDG 280-15011-2) were identified as field duplicates. No N-nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	RD-45A_042511_01	RD-45A_042511_36			
N-nitrosodimethylamine	0.066	0.066	0 (≤35)	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	RD-02_042511_01	RD-02_042511_36			
N-nitrosodimethylamine	0.0064	0.0065	2 (≤35)	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	ES-17_042511_01	ES-17_042511_36			
N-nitrosodimethylamine	0.082	0.073	12 (≤35)	-	-

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-15011-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15011-1	HAR-33_042511_01 RD-52A_042511_01 RD-53_042511_01 RD-45A_042511_01 RD-03_042511_01 RD-02_042511_01 ES-27_042511_01 ES-17_042511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary – SDG 280-15011-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-15011-1**

No Sample Data Qualified in this SDG

LDC #: 25476B2b
 SDG #: 280-15011-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/25/11
 Page: 1 of 1
 Reviewer: *[Signature]*
 2nd Reviewer: *[Signature]*

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/25/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS / D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	D ₁ = 4 + RD-45A-042511-36 (280-15011-2)
XVI.	Field duplicates	SW	D ₂ = 6 + RD-02-042511-36 D ₃ = 8 + ES-17-042511-36
XVII.	Field blanks	ND	FB = FB-RD-45A-042511-19 = FB-RD-02-042511-19 = FB-ES-17-042511-19

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinstate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

water

1	HAR-33_042511_01	11	MB 280-64238 / 1-A	21	31
2	RD-52A_042511_01	12		22	32
3	RD-53_042511_01	13		23	33
4	RD-45A_042511_01	14	D ₁	24	34
5	RD-03_042511_01	15		25	35
6	RD-02_042511_01	16	D ₂	26	36
7	ES-27_042511_01	17		27	37
8	ES-17_042511_01	18	D ₃	28	38
9		19		29	39
10		20		30	40

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GCMS NDMA (EPA Method 1625M)

- N/A Were field duplicate pairs identified in this SDG?
- N/A Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent Only)
	RD-45A_042511_01	RD-45A_042511_36		
NDMA	0.066	0.066	0	

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent Only)
	RD-02_042511_01	RD-02_042511_36		
NDMA	0.0064	0.0065	2	

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent Only)
	ES-17_042511_01	ES-17_042511_36		
NDMA	0.082	0.073	12	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 25, 2011

LDC Report Date: May 26, 2011

Matrix: Water

Parameters: Pentachlorophenol

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15011-1

Sample Identification

HAR-33_042511_01
ES-27_042511_01
ES-17_042511_01

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Pentachlorophenol.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No pentachlorophenol was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15011-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Data Qualification Summary - SDG 280-15011-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15011-1	HAR-33_042511_01 ES-27_042511_01 ES-17_042511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Laboratory Blank Data Qualification Summary - SDG 280-15011-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Field Blank Data Qualification Summary - SDG 280-15011-1**

No Sample Data Qualified in this SDG

LDC #: 25476B2d

VALIDATION COMPLETENESS WORKSHEET

SDG #: 280-15011-1

Level V

Laboratory: Test America, Inc.

Date: 5/25/11

Page: 1 of 1

Reviewer: *ML*

2nd Reviewer: _____

METHOD: GC/MS Pentachlorophenol (EPA SW846 Method 8270C-~~H~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/25/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	2GS / D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water						
1	HAR-33_042511_01	11	MB 280-64398 / 1-A	21		31
2	ES-27_042511_01	12		22		32
3	ES-17_042511_01	13		23		33
4		14		24		34
5		15		25		35
6		16		26		36
7		17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 25, 2011

LDC Report Date: May 26, 2011

Matrix: Water

Parameters: Chlorinated Pesticides

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15011-1

Sample Identification

HAR-33_042511_01

ES-27_042511_01

ES-17_042511_01

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticides were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Column	Surrogate	%R (Limits)	Compound	Flag	A or P
MB 280-64231/1-A	1	Tétrachloro-m-xylene	30 (60-140)	All TCL compounds	J (all detects) UJ (all non-detects)	P

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D 280-64231/4,5-A (All samples in SDG 280-15011-1)	Toxaphene	120 (55-118)	-	-	J (all detects)	P

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

Raw data were not reviewed for this SDG.

XIII. Compound Quantitation and Reported CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15011-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Data Qualification Summary - SDG 280-15011-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15011-1	HAR-33_042511_01 ES-27_042511_01 ES-17_042511_01	Toxaphene	J (all detects)	P	Laboratory control samples (%R) (L)
280-15011-1	HAR-33_042511_01 ES-27_042511_01 ES-17_042511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 280-15011-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Field Blank Data Qualification Summary - SDG 280-15011-1**

No Sample Data Qualified in this SDG

LDC #: 25476B3a

VALIDATION COMPLETENESS WORKSHEET

Date: 5/25/11

SDG #: 280-15011-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: MB2nd Reviewer: MB

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/25/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	SW	LCs / D
IX.	Regional quality assurance and quality control	N	
X.	Florisil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation and reported CRQLs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates	N	
XVI.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinstate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	HAR-33_042511_01	11	MB 280-64231 / 1-A	21	31
2	ES-27_042511_01	12		22	32
3	ES-17_042511_01	13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG. Chlordane
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH. Chlordane (Technical)
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II. Aroclor 1262
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ. Aroclor 1268
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. 2,4'-DDD	KK. oxy Chlordane
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. 2,4'-DDE	LL. trans-Nonachlor
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE. 2,4'-DDT	MM. cis-Nonachlor
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF. Hexachlorobenzene	NN.

Notes:

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 25, 2011

LDC Report Date: May 26, 2011

Matrix: Water

Parameters: Polychlorinated Biphenyls

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15011-1

Sample Identification

HAR-33_042511_01

ES-27_042511_01

ES-17_042511_01

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

Raw data were not reviewed for this SDG.

XIII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG280-15011-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Data Qualification Summary - SDG 280-15011-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15011-1	HAR-33_042511_01 ES-27_042511_01 ES-17_042511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 280-15011-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG 280-15011-1**

No Sample Data Qualified in this SDG

LDC #: 25476B3b

VALIDATION COMPLETENESS WORKSHEET

Date: 5/25/11

SDG #: 280-15011-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: *Me*2nd Reviewer: *[Signature]*

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/25/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS 1b
IX.	Regional quality assurance and quality control	N	
X.	Florisil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation and reported CRQLs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates	N	
XVI.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	HAR-33_042511_01	11	MB 280-64231/1-A	21	31
2	ES-27_042511_01	12		22	32
3	ES-17_042511_01	13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 25, 2011
LDC Report Date: May 23, 2011
Matrix: Water
Parameters: Metals
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-15011-1

Sample Identification

HAR-33_042511_01
ES-27_042511_01
ES-17_042511_01
HAR-33_042511_01F
ES-27_042511_01F
ES-17_042511_01F
HAR-33_042511_01MS
HAR-33_042511_01MSD
ES-17_042511_01MS
ES-17_042511_01MSD
HAR-33_042511_01FMS
HAR-33_042511_01FMSD
ES-17_042511_01FMS
ES-17_042511_01FMSD

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 14 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B, 6020, and 7000 for Metals. The metals analyzed were Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Sodium	0.118 mg/L	ES-17_042511_01F
PB (prep blank)	Magnesium Manganese Sodium	0.0465 mg/L 0.000490 mg/L 0.0932 mg/L	ES-17_042511_01
PB (prep blank)	Tin	0.00127 mg/L	All dissolved samples in SDG 280-15011-1

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
ES-17_042511_01	Manganese	0.00056 mg/L	0.00056U mg/L
HAR-33_042511_01F	Tin	0.00026 mg/L	0.00026U mg/L
ES-27_042511_01F	Tin	0.0010 mg/L	0.0010U mg/L
ES-17_042511_01F	Tin	0.00080 mg/L	0.00080U mg/L

No field blanks were identified in this SDG.

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution data were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-15011-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Data Qualification Summary - SDG 280-15011-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-15011-1	HAR-33_042511_01 ES-27_042511_01 ES-17_042511_01 HAR-33_042511_01F ES-27_042511_01F ES-17_042511_01F	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Laboratory Blank Data Qualification Summary - SDG 280-15011-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-15011-1	ES-17_042511_01	Manganese	0.00056U mg/L	A	B
280-15011-1	HAR-33_042511_01F	Tin	0.00026U mg/L	A	B
280-15011-1	ES-27_042511_01F	Tin	0.0010U mg/L	A	B
280-15011-1	ES-17_042511_01F	Tin	0.00080U mg/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Field Blank Data Qualification Summary - SDG 280-15011-1**

No Sample Data Qualified in this SDG

LDC #: 25476B4
 SDG #: 280-15011-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5-20-11

Page: 1 of 1

Reviewer: MG

2nd Reviewer: [Signature]

METHOD: Metals (EPA SW 846 Method 6010B/6020/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4-25-11</u>
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	A	MS/MSD
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	A	LCS/LCSD
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	not utilized
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	
XIV.	Field Duplicates	N	
XV.	Field Blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinstate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:
all water

1	HAR-33_042511_01	11	HAR-33_042511_01FMS	21		31
2	ES-27_042511_01	12	HAR-33_042511_01FMSD	22		32
3	ES-17_042511_01	13	ES-17_042511_01FMS	23		33
4	HAR-33_042511_01F	14	ES-17_042511_01FMSD	24		34
5	ES-27_042511_01F	15		25		35
6	ES-17_042511_01F	16		26		36
7	HAR-33_042511_01MS	17		27		37
8	HAR-33_042511_01MSD	18		28		38
9	ES-17_042511_01MS	19		29 ¹	PBW1	39
10	ES-17_042511_01MSD	20		30 ²	PBW2	40

Notes: Samples appended with "F" were analyzed for dissolved metals

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000) Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 6 (>5x)

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	No Qual.					
Na		0.118		0.59						

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000) Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 3 Qual: U (B)

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	3					
Mg		0.0465		0.2325						
Mn		0.000490		0.00245	0.00056					
Na		0.0932		0.466						

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000) Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L Associated Samples: all dissolved Qual: U (B)

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	4	5	6			
Sn		0.00127		0.00635	0.00026	0.0010	0.00080			

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 25, 2011

LDC Report Date: May 26, 2011

Matrix: Water

Parameters: Herbicides

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15011-1

Sample Identification

HAR-33_042511_01

ES-27_042511_01

ES-17_042511_01

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8151A for Herbicides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No herbicide contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/(Matrix Spike) Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D 280-64197/2,3-A (All samples in SDG 280-15011-1)	2,4-D	-	150 (15-140)	-	J (all detects)	P

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15011-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Data Qualification Summary - SDG 280-15011-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15011-1	HAR-33_042511_01 ES-27_042511_01 ES-17_042511_01	2,4-D	J (all detects)	P	Laboratory control samples (%R) (L)
280-15011-1	HAR-33_042511_01 ES-27_042511_01 ES-17_042511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Laboratory Blank Data Qualification Summary - SDG 280-15011-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Field Blank Data Qualification Summary - SDG 280-15011-1**

No Sample Data Qualified in this SDG

LDC #: 25476B5

VALIDATION COMPLETENESS WORKSHEET

Date: 5/25/11

SDG #: 280-15011-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: NL2nd Reviewer: [Signature]

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/25/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	SW	LCS 1D
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water							
1	HAR-33_042511_01	11	MB 280-69197/1-A	21		31	
2	ES-27_042511_01	12		22		32	
3	ES-17_042511_01	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

VALIDATION FINDINGS WORKSHEET

METHOD: GC HPLC

8310	8330	8151	8141	8141(Cont)	8021B
A. Acenaphthene	A. HMX	A. 2,4-D	A. Dichlorvos	V. Fensulfothion	V. Benzene
B. Acenaphthylene	B. RDX	B. 2,4-DB	B. Mevinphos	W. Bolistar	CC. Toluene
C. Anthracene	C. 1,3,5-Trinitrobenzene	C. 2,4,5-T	C. Demeton-O	X. EPN	EE. Ethyl Benzene
D. Benzo(a)anthracene	D. 1,3-Dinitrobenzene	D. 2,4,5-TP	D. Demeton-S	Y. Azinphos-methyl	SSS. O-Xylene
E. Benzo(a)pyrene	E. Tetlyl	E. Dinoseb	E. Ethoprop	Z. Coumaphos	RRR. MP-Xylene
F. Benzo(b)fluoranthene	F. Nitrobenzene	F. Dichlorprop	F. Naled	AA. Parathion	GG. Total Xylene
G. Benzo(g,h,i)perylene	G. 2,4,6-Trinitrotoluene	G. Dicamba	G. Sulfotep	BB. Trichloronate	
H. Benzo(k)fluoranthene	H. 4-Amino-2,6-dinitrotoluene	H. Dalapon	H. Phorate	CC. Trichlorinate	
I. Chrysene	I. 2-Amino-4,6-dinitrotoluene	I. MCPP	I. Dimethoate	DD. Trifluralin	
J. Dibenz(a,h)anthracene	J. 2,4-Dinitrotoluene	J. MCPA	J. Diazinon	EE. Def	
K. Fluoranthene	K. 2,6-Dinitrotoluene	K. Pentachlorophenol	K. Disulfoton	FF. Prowl	
L. Fluorene	L. 2-Nitrotoluene	L. 2,4,5-TP (silvex)	L. Parathion-methyl	GG. Ethion	
M. Indeno(1,2,3-cd)pyrene	M. 3-Nitrotoluene	M. Silvex	M. Ronnel	HH. Famphur	
N. Naphthalene	N. 4-Nitrotoluene		N. Malathion	II. Phosmet	
O. Phenanthrene	O. Nitroglycerin		O. Chlorpyrifos	JJ. Tetrachlorvinphos	
P. Pyrene	P.		P. Fenthion	KK. Demeton (total)	
Q.	Q		Q. Parathion-ethyl		
R.			R. Trichlorate		
S.			S. Merphos		
			T. Stirofos		
			U. Tokuthion		

Notes:

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 25, 2011
LDC Report Date: May 23, 2011
Matrix: Water
Parameters: Wet Chemistry
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-15011-1

Sample Identification

HAR-33_042511_01
RD-45A_042511_01
RD-03_042511_01
RD-02_042511_01
ES-27_042511_01
ES-17_042511_01
HAR-33_042511_01MS
HAR-33_042511_01MSD
HAR-33_042511_01DUP
ES-17_042511_01DUP
RD-53_042511_01

Introduction

This data review covers 11 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Standard Method 2320B for Alkalinity, EPA Method 350.1 for Ammonia as Nitrogen, EPA Method 300.0 for Chloride, Fluoride, Nitrate, and Sulfate, Standard Method 2510B for Conductivity, EPA SW 846 Method 9012A for Cyanide, EPA Method 314.0 for Perchlorate, EPA SW 846 Method 9040B for pH, Standard Method 4500-S2 D for Sulfide, Standard Method 2540C for Total Dissolved Solids, and EPA Method 180.1 for Turbidity.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
HAR-33_042511_01 HAR-33_042511_01DUP	pH	48.25 hours	48 hours	J (all detects) UJ (all non-detects)	P
RD-53_042511_01	pH	48.50 hours	48 hours	J (all detects) UJ (all non-detects)	P
ES-27_042511_01	pH	48.75 hours	48 hours	J (all detects) UJ (all non-detects)	P

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
PB (prep blank)	Ammonia as N	0.0685 mg/L	All samples in SDG 280-15011-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
HAR-33_042511_01	Ammonia as N	0.085 mg/L	0.085U mg/L

Sample	Analyte	Reported Concentration	Modified Final Concentration
RD-53_042511_01	Ammonia as N	0.080 mg/L	0.080U mg/L
RD-45A_042511_01	Ammonia as N	0.071 mg/L	0.071U mg/L
RD-03_042511_01	Ammonia as N	0.060 mg/L	0.060U mg/L
RD-02_042511_01	Ammonia as N	0.068 mg/L	0.068U mg/L
ES-27_042511_01	Ammonia as N	0.071 mg/L	0.071U mg/L
ES-17_042511_01	Ammonia as N	0.11 mg/L	0.11U mg/L

No field blanks were identified in this SDG.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-15011-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-15011-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-15011-1	HAR-33_042511_01 RD-53_042511_01 ES-27_042511_01	pH	J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-15011-1	HAR-33_042511_01 RD-45A_042511_01 RD-03_042511_01 RD-02_042511_01 ES-27_042511_01 ES-17_042511_01 RD-53_042511_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-15011-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-15011-1	HAR-33_042511_01	Ammonia as N	0.085U mg/L	A	B
280-15011-1	RD-53_042511_01	Ammonia as N	0.080U mg/L	A	B
280-15011-1	RD-45A_042511_01	Ammonia as N	0.071U mg/L	A	B
280-15011-1	RD-03_042511_01	Ammonia as N	0.060U mg/L	A	B
280-15011-1	RD-02_042511_01	Ammonia as N	0.068U mg/L	A	B
280-15011-1	ES-27_042511_01	Ammonia as N	0.071U mg/L	A	B
280-15011-1	ES-17_042511_01	Ammonia as N	0.11U mg/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-15011-1**

No Sample Data Qualified in this SDG

LDC #: 25476B6
 SDG #: 280-15011-1
 Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5-20-11
 Page: 1 of 1
 Reviewer: MG
 2nd Reviewer: [Signature]

METHOD: (Analyte) Alkalinity (SM2320B), Ammonia-N (EPA Method 350.1), Chloride, Fluoride, Nitrate, Sulfate (EPA Method 300.0), Conductivity (SM2510B), Cyanide (EPA SW846 Method 9012A), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B), Sulfide (SM4500-S2 D), TDS (SM2540C), Turbidity (EPA Method 180.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: <u>4-25-11</u>
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	SW	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/MSD
V	Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS/LCSD
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:
all water

1	HAR-33_042511_01	11	ES-17_042511_01DUP	21	31
2	TB HAR 33 042511	12	RD-53_042511-01	22	32
3	RD-45A_042511_01	13		23	33
4	RD-03_042511_01	14		24	34
5	RD-02_042511_01	15		25	35
6	ES-27_042511_01	16		26	36
7	ES-17_042511_01	17		27	37
8	HAR-33_042511_01MS	18		28	38
9	HAR-33_042511_01MSD	19		29	39
10	HAR-33_042511_01DUP	20		30	40

Notes: _____

VALIDATION FINDINGS WORKSHEET
Blanks

METHOD: Inorganics, Method See Cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were blank analyses performed as required? If no, please see qualifications below.

Y N N/A Were any activities in the blanks greater than the minimum detectable activity? If yes, please see qualifications below.

Conc. units: mg/L Associated Samples: all Qual: U (B)

Analyte	Blank ID	Blank ID	Blank Action Limit								
	PB	ICB/CCB (mg/L)		1	12	3	4	5	6	7	
NH3-N	0.0685		0.3425	0.085	0.080	0.071	0.060	0.068	0.071	0.11	

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:

All contaminants within five times the method blank concentration were qualified as not detected, "U".

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 25, 2011

LDC Report Date: May 26, 2011

Matrix: Water

Parameters: Diesel Range Organics

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15011-1

Sample Identification

RD-52A_042511_01
RD-53_042511_01
RD-45A_042511_01
RD-03_042511_01
RD-02_042511_01
ES-27_042511_01
ES-17_042511_01

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Diesel Range Organics.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No diesel range organic contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15011-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Data Qualification Summary - SDG 280-15011-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15011-1	RD-52A_042511_01 RD-53_042511_01 RD-45A_042511_01 RD-03_042511_01 RD-02_042511_01 ES-27_042511_01 ES-17_042511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Laboratory Blank Data Qualification Summary - SDG 280-15011-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Field Blank Data Qualification Summary - SDG 280-15011-1**

No Sample Data Qualified in this SDG

LDC #: 25476B8
 SDG #: 280-15011-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

8015 B

Date: 5/25/11
 Page: 1 of 1
 Reviewer: ML
 2nd Reviewer: [Signature]

METHOD: GC Diesel Range Organics (Oklahoma Department of Environmental Quality)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/25/11</u>
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	<u>client spec</u>
VII.	Laboratory control samples	A	<u>LES / D</u>
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: water

1	RD-52A_042511_01	11	<u>MB 280-64210 / 1-A</u>	21	31
2	RD-53_042511_01	12		22	32
3	RD-46A_042511_01	13		23	33
4	RD-03_042511_01	14		24	34
5	RD-02_042511_01	15		25	35
6	ES-27_042511_01	16		26	36
7	ES-17_042511_01	17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 25, 2011
LDC Report Date: May 26, 2011
Matrix: Water
Parameters: 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-15011-1

Sample Identification

HAR-33_042511_01
TB_HAR-33_042511
ES-27_042511_01
TB_ES-27_042511
ES-17_042511_01

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 504.1 for 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in the method blanks.

Samples TB_HAR-33_042511 and TB_ES-27_042511 were identified as trip blanks. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in these blanks.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the methods. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Column	Surrogate	%R (Limits)	Compound	Flag	A or P
ES-17_042511_01	1	1,2-Dibromopropane	137 (70-130)	1,2-Dibromoethane 1,2-Dibromo-3-chloropropane	J (all detects) J (all detects)	P

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D 280-65060/1,2-A (All samples in SDG 280-15011-1)	1,2-Dibromoethane	-	66 (70-130)	-	J (all detects) UJ (all non-detects)	P

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG280-15011-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Data Qualification Summary -
 SDG 280-15011-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15011-1	ES-17_042511_01	1,2-Dibromoethane 1,2-Dibromo-3-chloropropane	J (all detects) J (all detects)	P	Surrogate spikes (%R) (S)
280-15011-1	HAR-33_042511_01 TB_HAR-33_042511 ES-27_042511_01 TB_ES-27_042511 ES-17_042511_01	1,2-Dibromoethane	J (all detects) UJ (all non-detects)	P	Laboratory control samples (%R) (L)
280-15011-1	HAR-33_042511_01 TB_HAR-33_042511 ES-27_042511_01 TB_ES-27_042511 ES-17_042511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Laboratory Blank Data
 Qualification Summary - SDG 280-15011-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Field Blank Data Qualification
 Summary - SDG 280-15011-1**

No Sample Data Qualified in this SDG

LDC #: 25476B10

VALIDATION COMPLETENESS WORKSHEET

SDG #: 280-15011-1

Level V

Laboratory: Test America, Inc.

Date: 5/25/11

Page: 1 of 1

Reviewer: MB2nd Reviewer: CV

METHOD: GC 1,2-Dibromomethane & 1,2-Dibromo-3-chloropropane (EPA Method 504.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/25/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	SW	
VI.	Matrix spike/Matrix spike duplicates	N	Client spec
VII.	Laboratory control samples	SW	LCS / D
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	TB = 2, 4

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	HAR-33_042511_01	11	MB 280-65060 / A-A	21		31	
2	TB HAR-33_042511	12		22		32	
3	ES-27_042511_01	13		23		33	
4	TB ES-27_042511	14		24		34	
5	ES-17_042511_01	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 25, 2011

LDC Report Date: May 26, 2011

Matrix: Water

Parameters: Organophosphorus Pesticides

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15011-1

Sample Identification

HAR-33_042511_01
ES-27_042511_01
ES-17_042511_01

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8141A for Organophosphorus Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No organophosphorus pesticide contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15011-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Data Qualification Summary - SDG 280-15011-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15011-1	HAR-33_042511_01 ES-27_042511_01 ES-17_042511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Laboratory Blank Data Qualification Summary - SDG 280-15011-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Field Blank Data Qualification Summary - SDG 280-15011-1**

No Sample Data Qualified in this SDG

LDC #: 25476B17

VALIDATION COMPLETENESS WORKSHEET

Date: 5/25/11

SDG #: 280-15011-1

Level: V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: *[Signature]*
2nd Reviewer: *[Signature]*

METHOD: GC Organophosphorus Pesticides (EPA SW 846 Method 8141A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 5/25/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	LCS 1D
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	HAR-33_042511_01	11	MB 280-64138 / 1-A	21		31	
2	ES-27_042511_01	12		22		32	
3	ES-17_042511_01	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 25, 2011

LDC Report Date: May 26, 2011

Matrix: Water

Parameters: Hexachlorophene

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15011-1

Sample Identification

HAR-33_042511_01

ES-27_042511_01

ES-17_042511_01

HAR-33_042511_01MS

HAR-33_042511_01MSD

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8321A for Hexachlorophene.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No hexachlorophene was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
HAR-33_042511_01MS/MSD (HAR-33_042511_01)	Hexachlorophene	24 (50-150)	9 (50-150)	-	J (all detects) UJ (all non-detects)	A

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG280-15011-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Data Qualification Summary - SDG 280-15011-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15011-1	HAR-33_042511_01	Hexachlorophene	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R)(Q)
280-15011-1	HAR-33_042511_01 ES-27_042511_01 ES-17_042511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Laboratory Blank Data Qualification Summary - SDG 280-15011-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Field Blank Data Qualification Summary - SDG 280-15011-1**

No Sample Data Qualified in this SDG

LDC #: 25476B44
 SDG #: 280-15011-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/25/11
 Page: 1 of 1
 Reviewer: ML
 2nd Reviewer: [Signature]

METHOD: LC/MS Hexachlorophene (EPA SW 846 Method 8321A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/25/11</u>
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: Water

1	HAR-33_042511_01	11	MB 280-64548/10	21	31
2	ES-27_042511_01	12		22	32
3	ES-17_042511_01	13		23	33
4	HAR-33_042511_01MS	14		24	34
5	HAR-33_042511_01MSD	15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 25, 2011

LDC Report Date: May 26, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15011-1/A1D260505

Sample Identification

HAR-33_042511_01
RD-53_042511_01
RD-45A_042511_01
RD-03_042511_01
RD-02_042511_01
ES-27_042511_01
ES-17_042511_01
HAR-33_042511_01MS
HAR-33_042511_01MSD

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15011-1/A1D260505	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Data Qualification Summary - SDG 280-15011-1/A1D260505**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15011-1/ A1D260505	HAR-33_042511_01 RD-53_042511_01 RD-45A_042511_01 RD-03_042511_01 RD-02_042511_01 ES-27_042511_01 ES-17_042511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-15011-1/A1D260505**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Field Blank Data Qualification Summary - SDG 280-15011-1/A1D260505**

No Sample Data Qualified in this SDG

LDC #: 25476B71 **VALIDATION COMPLETENESS WORKSHEET**

SDG #: 280-15011-1/A1D260505

Level: V

Laboratory: Test America, Inc.

Date: 5/25/11

Page: 1 of 1

Reviewer: *[Signature]*

2nd Reviewer: *[Signature]*

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/25/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	A	
VII.	Laboratory control samples	A	LCS
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: *Water*

1	HAR-33_042511_01	11	1117033-MB	21		31
2	RD-53_042511_01	12		22		32
3	RD-45A_042511_01	13		23		33
4	RD-03_042511_01	14		24		34
5	RD-02_042511_01	15		25		35
6	ES-27_042511_01	16		26		36
7	ES-17_042511_01	17		27		37
8	HAR-33_042511_01MS	18		28		38
9	HAR-33_042511_01MSD	19		29		39
10		20		30		40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 25, 2011

LDC Report Date: May 26, 2011

Matrix: Water

Parameters: Hydrazines

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15011-1

Sample Identification

HAR-33_042511_01
RD-53_042511_01
RD-45A_042511_01
RD-03_042511_01
RD-02_042511_01
ES-27_042511_01
ES-17_042511_01

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DVWC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazine contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound	Concentration	Associated Samples
MB 280-64608/35	4/27/11	1,1-Dimethylhydrazine Monomethylhydrazine	1.28 ug/L 0.760 ug/L	All samples in SDG 280-15011-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15011-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field blanks were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-15011-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15011-1	HAR-33_042511_01 RD-53_042511_01 RD-45A_042511_01 RD-03_042511_01 RD-02_042511_01 ES-27_042511_01 ES-17_042511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-15011-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-15011-1**

No Sample Data Qualified in this SDG

LDC #: 25476A76
 SDG #: 280-15011-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/25/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: HPLC Hydrazines (Method DVWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/25/11</u>
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	SW	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	N	<u>Client Spec</u>
VII.	Laboratory control samples	A	<u>LCS 1D</u>
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: Water

1	HAR-33_042511_01	11	<u>11B 280-64608/35</u>	21		31	
2	RD-53_042511_01	12		22		32	
3	RD-45A_042511_01	13		23		33	
4	RD-03_042511_01	14		24		34	
5	RD-02_042511_01	15		25		35	
6	ES-27_042511_01	16		26		36	
7	ES-17_042511_01	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

All circled methods are applicable to each sample.

Sample ID	Matrix	A	B	Parameter C
All	W	Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine

Comments: _____

Blanks

METHOD: GC HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- Y N N/A Were all samples associated with a given method blank?
- Y N N/A Was a method blank performed for each matrix and whenever a sample extraction procedure was performed?
- Y N N/A Was a method blank performed with each extraction batch?
- Y N N/A Were any contaminants found in the method blanks? If yes, please see findings below.

Level IV/B Only

- Y N N/A (Gasoline and aromatics only) Was a method blank analyzed with each 24 hour batch?
- Y N N/A Was a method blank analyzed for each analytical / extraction batch of ≤20 samples?

Blank extraction date: N/A Blank analysis date: 4/27/11 Associated samples: A1 (MB)

Conc. units: mg/L

Compound	Blank ID	Sample Identification
	MB 280 - 64608 / 35	
B	1.28	
C	0.760	

Blank extraction date: Blank analysis date: Associated samples:

Compound	Blank ID	Sample Identification

ALL CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 31, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

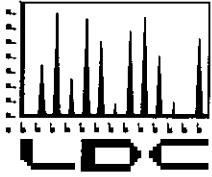
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 17, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25476:

<u>SDG #</u>	<u>Fraction</u>
280-17967-2	Perchlorate
280-15011-1/ IUD2600 /A1D260505	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Pentachlorophenol, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane, Organophosphorus Pesticides, Hexachloroethane, Formaldehyde, Hydrazine

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV,



February 2007

Please feel free to contact us if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Pei Geng' in a cursive style.

Pei Geng
Project Manager/Senior Chemist

Client Select IV LDC #25476 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane (8260B-S)		1,2,3-TCP (524.2)		SVOA (8270C)		PCP (8270C -LL)		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (OK-DEQ)		EDB (504.1)		Formaldehyde (8315)		Hexachlorophene (8321A)		OPHS Pest. (8141A)		Herbs (8151A)					
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S				
Matrix:	Water/Soil																																						
B	280-15011/ IUD2600 /A1D260505	05/17/11	06/08/11	10	0	10	0	8	0	8	0	3	0	3	0	8	0	3	0	3	0	3	0	3	0	7	0	5	0	7	0	3	0	3	0	3	0		
Total	T/PG			10	0	10	0	8	0	8	0	3	0	3	0	8	0	3	0	3	0	3	0	3	0	7	0	5	0	7	0	3	0	3	0	3	0	3	0

Client Select IV LDC #25468 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydrazine (DVWC)		ClO ₂ (6860)		Alk. (2320B)		NH ₃ -N (350.1)		Cl SO ₄ (300.0)		F NO ₃ (300.0)		CN- (9012A)		Cond. (2510B)		ClO ₄ (314.0)		pH (9040B)		Turb. (180.1)		TDS (2440C)		S= (4500 -S2 D)					
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S		
Matrix:	Water/Soil																																				
A	280-14967-2	05/17/11	06/08/11	-	-	-	-	-	-	3	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
B	280-15011-1	05/17/11	06/08/11	7	0	7	0	7	0	-	-	1	0	7	0	1	0	7	0	3	0	1	0	7	0	7	0	1	0	1	0	1	0	3	0	3	0
Total	T/PG			7	0	7	0	7	0	3	0	1	0	7	0	1	0	7	0	3	0	1	0	7	0	7	0	1	0	1	0	1	0	3	0	3	0

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 22, 2011

LDC Report Date: May 26, 2011

Matrix: Water

Parameters: Perchlorate

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14967-2

Sample Identification

HAR-02_042211_01

RD-77_042211_01

HAR-25_042211_01

HAR-02_042211_01MS

HAR-02_042211_01MSD

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW846 Method 6860 for Perchlorate.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No perchlorate was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14967-2	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 1st Qtr, 2011
 Perchlorate - Data Qualification Summary - SDG 280-14967-2**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14967-2	HAR-02_042211_01 RD-77_042211_01 HAR-25_042211_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 1st Qtr, 2011
 Perchlorate - Laboratory Blank Data Qualification Summary - SDG 280-14967-2**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 1st Qtr, 2011
 Perchlorate - Field Blank Data Qualification Summary - SDG 280-14967-2**

No Sample Data Qualified in this SDG

LDC #: 25476A87

VALIDATION COMPLETENESS WORKSHEET

Date: 5/25/11

SDG #: 280-14967-2

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: *[Signature]*2nd Reviewer: *[Signature]*

METHOD: LC/MS Perchlorate (EPA SW846 Method 6860)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/22/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1 ⁺	HAR-02_042211_01	11	MB 280-66497/5	21	31
2 ⁺	RD-77_042211_01	12		22	32
3 ⁺	HAR-25_042211_01	13		23	33
4	HAR-02_042211_01MS	14		24	34
5	HAR-02_042211_01MSD	15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

June 8, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

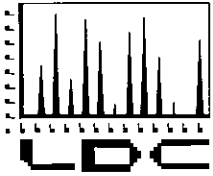
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 19, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25500:

<u>SDG #</u>	<u>Fraction</u>
280-15069-2	N-Nitrosodimethylamine
280-15266-1/ H1E030576	Dioxins/Dibenzofurans

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007



Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 26, 2011

LDC Report Date: May 26, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15069-2

Sample Identification

PZ-035_042611_36

EB_PZ-035_042611

FB_PZ-035_042611_19

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-nitrosodimethylamine was found in the method blanks.

Samples EB_PZ-035_042611 and EB_SH-04_040711 (from SDG 280-14379-1) were identified as equipment blanks. No N-nitrosodimethylamine was found in these blanks.

Samples FB_PZ-035_042611_19 and FB_041411_19 (from SDG 280-14655-1) were identified as field blanks. No N-nitrosodimethylamine was found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG280-15069-2	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples PZ-035_042611_36 and PZ-035_042611_01 (from SDG 280-15069-1) were identified as field duplicates. No N-nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	PZ-035_042611_01	PZ-035_042611_36			
N-nitrosodimethylamine	0.0098	0.016	48 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-15069-2**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15069-2	PZ-035_042611_36 EB_PZ-035_042611 FB_PZ-035_042611_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary – SDG 280-15069-2**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-15069-2**

No Sample Data Qualified in this SDG

LDC #: 25500A2b
 SDG #: 280-15069-2
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/25/11
 Page: 1 of 1
 Reviewer: JLG
 2nd Reviewer: [Signature]

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/26/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS ④
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D = 1 + PZ-035_042611_01 (280-15069-1)
XVII.	Field blanks	ND	EB = 2, EB-SH-04-040711 (280-14379-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

FB = 3, FB-041411-19 (280-14655-1)
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	PZ-035_042611_36	11	MB 280-64949/1-A	21	31
2	EB_PZ-035_042611	12	MB 280-65225/1-A	22	32
3	FB_PZ-035_042611_19	13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GCMS NDMA (EPA Method 1625M)

- Y N NA Were field duplicate pairs identified in this SDG?
- Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent Only)
	PZ-035_042611_01	PZ-035_042611_36		
NDMA	0.0098	0.016	48	NQ(<5XRL)



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

June 8, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

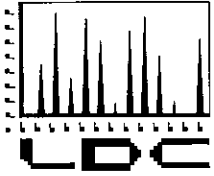
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 19, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25500:

<u>SDG #</u>	<u>Fraction</u>
280-15069-2	N-Nitrosodimethylamine
280-15266-1/ H1E030576	Dioxins/Dibenzofurans

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007



Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 29, 2011

LDC Report Date: May 26, 2011

Matrix: Water

Parameters: Dioxins/Dibenzofurans

Validation Level: EPA Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15266-1/H1E030576

Sample Identification

RD-104_042911_01
PZ-158_042911_01
EB_PZ-158_042911
PZ-146_042911_01
EB_PZ-146_042911

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Routine Calibration (Continuing)

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
1125234-MB	5/5/11	1,2,3,4,7,8-HxCDF	1.2 pg/L	All samples in SDG 280-15266-1/H1E030576

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

Samples EB_PZ-158_042911 and EB_PZ-146_042911 were identified as equipment blanks. No polychlorinated dioxin/dibenzofuran contaminants were found in these blanks.

Sample FB_041411_19 (from SDG 280-14659-1) was identified as a field blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

Internal standards data were not reviewed for Level V.

X. Target Compound Identifications

Raw data were not reviewed for this SDG.

XI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15266-1/H1E030576	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XII. System Performance

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Samples PZ-152_042911_01 and EB_PZ-152_042911 analyses were cancelled due to broken bottles received by laboratory.

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-15266-1/H1E030576**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15266-1/ H1E030576	RD-104_042911_01 PZ-158_042911_01 EB_PZ-158_042911 PZ-146_042911_01 EB_PZ-146_042911	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-15266-1/H1E030576**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-15266-1/H1E030576**

No Sample Data Qualified in this SDG

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/29/11
II.	HRGC/HRMS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Routine calibration/ICV	N	
V.	Blanks	SW	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	A	LCS ✓
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	N	
X.	Target compound identifications	N	
XI.	Compound quantitation and CRQLs	N	
XII.	System performance	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	ND	EB = 3, 5 FB = FB_041411_19 (280-14659-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: *Water*

1	RD-104_042911_01	11	1125234-NIB	21	31
2	PZ-158_042911_01	12		22	32
3	EB_PZ-158_042911	13		23	33
4	PZ-146_042911_01	14		24	34
5	EB_PZ-146_042911	15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

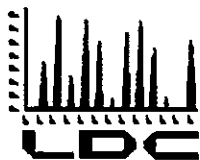
Notes: _____

VALIDATION FINDINGS WORKSHEET

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

A. 2,3,7,8-TCDD	F. 1,2,3,4,6,7,8-HpCDD	K. 1,2,3,4,7,8-HxCDF	P. 1,2,3,4,7,8,9-HpCDF	U. Total HpCDD
B. 1,2,3,7,8-PeCDD	G. OCDD	L. 1,2,3,6,7,8-HxCDF	Q. OCDF	V. Total TCDF
C. 1,2,3,4,7,8-HxCDD	H. 2,3,7,8-TCDF	M. 2,3,4,6,7,8-HxCDF	R. Total TCDD	W. Total PeCDF
D. 1,2,3,6,7,8-HxCDD	I. 1,2,3,7,8-PeCDF	N. 1,2,3,7,8,9-HxCDF	S. Total PeCDD	X. Total HxCDF
E. 1,2,3,7,8,9-HxCDD	J. 2,3,4,7,8-PeCDF	O. 1,2,3,4,6,7,8-HpCDF	T. Total HxCDD	Y. Total HpCDF

Notes:



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

June 16, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

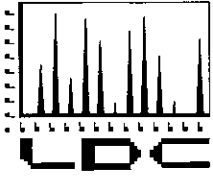
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 24, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25528:

<u>SDG #</u>	<u>Fraction</u>
280-15069-1/IUD2837/ A1D270448	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Pentachlorophenol, N- Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, 1,2- Dibromoethane & 1,2-Dibromo-3-chloropropane, Organophosphorus Pesticides, Hexachlorophene, Formaldehyde, Hydrazine
280-15126-1/IUD2827/ A1D280509	
280-15184-1/IUD2933/ A1D290602	
280-15257-1/IUE0199/ A1D300419	
280-15257-2	N-Nitrosodimethylamine
IUD2042	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Hexachlorophene, Herbicides, Wet Chemistry TPH as Extractables, 1,2-Dibromoethane & 1,2-Dibromo- 3-chloropropane, Organophosphorus Pesticides, Dioxins/Dibenzofurans, Formaldehyde, Hydrazine, Perchlorate
IUD2221	Volatiles, 1,4-Dioxane, Semivolatiles, N- Nitrosodimethylamine, Polychlorinated Biphenyls, Dissolved Metals, Wet Chemistry, TPH as Extractables, Dioxins/Dibenzofurans, Formaldehyde, Hydrazine

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009



- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

Client Select IV LDC #25528 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE RECD	(3) DATE DUE	VOA (8260B)		1,4-Dioxane (8260B-S)		1,2,3-TCP (524.2)		SVOA (8270C)		SVOA (8270C)		PCP (8270C)		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (OK-DEQ)		EDB (504.1)		Formaldehyde (8315)		Hexachloro-rophene (8321A)		OPHS Pest. (8141A)		Herbs (8151A)											
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S										
Matrix: Water/Soil																																															
A	280-15069-1/ IUD2837/ A1D270448	05/24/11	06/15/11	11	0	10	0	2	0	7	0	2	0	1	0	7	0	1	0	3	0	3	0	3	0	5	0	4	0	2	0	7	0	1	0	1	0	1	0	1	0	1	0				
B	280-15126-1/ IUD2827/ A1D280509	05/24/11	06/15/11	6	0	6	0	6	0	4	0	-	3	0	3	0	3	0	3	0	3	0	3	0	3	0	3	0	6	0	3	0	3	0	3	0	3	0	3	0	3	0	3	0			
C	280-15184-1/ IUD2933/ A1D290602	05/24/11	06/15/11	9	0	9	0	2	0	6	0	5	0	1	0	6	0	1	0	6	0	6	0	1	0	6	0	6	0	2	0	6	0	1	0	1	0	1	0	1	0	1	0	1	0		
D	280-15257-1/ IUE0199/ A1D300419	05/24/11	06/15/11	11	0	11	0	5	0	7	0	4	0	1	0	5	0	1	0	7	0	7	0	1	0	7	0	7	0	2	0	3	0	1	0	1	0	1	0	1	0	1	0	1	0		
E	280-15257-2	05/24/11	06/15/11	-	-	-	-	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
F	IUD2042	05/24/11	06/15/11	1	0	1	0	1	0	1	0	-	-	-	-	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0		
G	IUD2221	05/24/11	06/15/11	1	0	1	0	-	-	1	0	1	0	-	-	1	0	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Total	T/PG			39	0	38	0	16	0	26	0	12	0	6	0	25	0	7	0	21	0	9	0	23	0	22	0	13	0	21	0	7	0	7	0	7	0	7	0	7	0	7	0	7	0	7	0

Client Select IV LDC #25528 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE RECD	(3) DATE DUE	Dioxins (8290)		CLO ₄ (6860)		1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydra-zine (DVWC)		Alk. (2320B)		NH ₃ -N (350.1)		Cl SO ₄ (300.0)		F NO ₃ (300.0)		Br NO ₂ -N O-PO ₄		Cr(VI) & Diss. Cr(VI)		CN- (9012A)		Cond. (2510B)		CLO ₄ (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)						
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S			
Matrix: Water/Soil																																										
A	280-15069-1	05/24/11	06/15/11	-	-	-	-	5	0	5	0	5	0	2	0	5	0	4	0	7	0	2	0	2	0	2	0	1	0	2	0	5	0	5	0	2	0	2	0	2	0	
B	280-15126-1	05/24/11	06/15/11	-	-	-	-	3	0	2	0	2	0	1	0	3	0	1	0	3	0	-	-	-	-	-	-	3	0	1	0	3	0	3	0	3	0	1	0	1	0	
C	280-15184-1	05/24/11	06/15/11	-	-	-	-	2	0	2	0	2	0	1	0	2	0	6	0	6	0	5	0	4	0	4	0	1	0	1	0	2	0	2	0	2	0	1	0	1	0	
D	280-15257-1	05/24/11	06/15/11	-	-	-	-	1	0	-	-	2	0	1	0	1	0	3	0	3	0	2	0	2	0	2	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	
F	IUD2042/HA174/ G1D220529/ 1D22017	05/24/11	06/15/11	1	0	1	0	1	0	1	0	1	0	-	-	1	0	-	-	1	0	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	
G	IUD2221/ HA174/ G1D260546	05/24/11	06/15/11	1	0	-	-	1	0	1	0	1	0	1	0	-	-	1	0	1	0	1	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	T/PG			2	0	1	0	13	0	11	0	13	0	5	0	12	0	15	0	21	0	10	0	8	0	7	0	5	0	12	0	12	0	12	0	5	0	5	0	5	0	

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MSMSD, and DUPs

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 26, 2011

LDC Report Date: June 3, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15069-1

Sample Identification

RD-55A_042611_01
RD-55B_042611_01
TB_RD-55B_042611
PZ-139_042611_01
EB_PZ-139_042611
TB_PZ-139_042611
ES-26_042611_01
ES-26_042611_36
TB_ES-26_042611
PZ-035_042611_01
TB_PZ-035_042611
PZ-139_042611_01MS
PZ-139_042611_01MSD

Introduction

This data review covers 13 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Samples TB_RD-55B_042611, TB_PZ-139_042611, TB_ES-26_042611, and TB_PZ-035_042611 were identified as trip blanks. No volatile contaminants were found in these blanks.

Samples EB_SH_040711 (from SDG 280-14379-1) and EB_PZ-139_042611 were identified as equipment blanks. No volatile contaminants were found in these blanks.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No volatile contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
PZ-139_042611_01	Toluene-d8	111 (88-110)	All TCL compounds except Trichloroethene Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects)	A

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
PZ-139_042611_01	Toluene-d8	111 (88-110)	Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects)	A
EB_PZ-139_042611	Toluene-d8	114 (88-110)	Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects)	A
EB_PZ-139_042611	Toluene-d8	111 (88-110)	All TCL compounds except Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects)	A
TB_PZ-139_042611	Toluene-d8	118 (88-110)	Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects)	A
TB_PZ-139_042611	Toluene-d8	113 (88-110)	All TCL compounds except Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects)	A
ES-26_042611_01	Toluene-d8	112 (88-110)	All TCL compounds	J (all detects)	P
ES-26_042611_36	Toluene-d8	112 (88-110)	All TCL compounds	J (all detects)	P
TB_ES-26_042611	Toluene-d8	112 (88-110)	All TCL compounds	J (all detects)	P
PZ-035_042611_01	Toluene-d8	117 (88-110)	Acrolein Acrylonitrile	J (all detects)	A
PZ-035_042611_01	Toluene-d8	114 (88-110)	All TCL compounds except Acrolein Acrylonitrile	J (all detects)	A
TB_PZ-035_042611	Dibromofluoromethane Toluene-d8	84 (86-118) 113 (88-110)	Acrolein Acrylonitrile	J (all detects) UJ (all non-detects)	A
TB_PZ-035_042611	Toluene-d8	114 (88-110)	All TCL compounds except Acrolein Acrylonitrile	J (all detects)	A
MB 280-64831/5	Toluene-d8	115 (88-110)	All TCL compounds	J (all detects)	P
MB 280-66548/11	Toluene-d8	113 (88-110)	All TCL compounds	J (all detects)	P

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
PZ-139_042611_01MS/MSD (PZ-139_042611_01)	1,1,2,2-Tetrachloroethane	-	-	23 (≤20)	J (all detects)	A
PZ-139_042611_01MS/MSD (PZ-139_042611_01)	1,2,4-Trimethylbenzene	-	75 (77-120)	-	J (all detects)	A
	cis-1,2-Dichloroethene	-	74 (75-120)	-	UJ (all non-detects)	
	p-Cymene	-	75 (76-120)	-		
	sec-Butylbenzene	-	78 (80-120)	-		
	Trichloroethene	-	54 (78-122)	-		

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D 280-66538/5,6 (PZ-139_042611_01 EB_PZ-139_042611 TB_PZ-139_042611 MB 280-66538/17)	Cumene	124 (71-120)	126 (71-120)	-	J (all detects)	P

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15069-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples ES-26_042611_01 and ES-26_042611_36 were identified as split samples. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	ES-26_042611_01	ES-26_042611_36			
1,1,2-Trichloro-1,2,2-trifluoroethane	9.3	8.5	9 (≤35)	-	-
cis-1,2 -Dichloroethene	1.4	1.4	0 (≤35)	-	-
Trichloroethene	5.1	5.3	4 (≤35)	-	-

**Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-15069-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15069-1	PZ-139_042611_01	All TCL compounds except Trichloroethene Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects)	A	Surrogate spikes (%R) (S)
280-15069-1	PZ-139_042611_01	Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects)	A	Surrogate spikes (%R) (S)
280-15069-1	EB_PZ-139_042611 TB_PZ-139_042611 PZ-035_042611_01	All TCL compounds	J (all detects)	A	Surrogate spikes (%R) (S)
280-15069-1	ES-26_042611_01 ES-26_042611_36 TB_ES-26_042611	All TCL compounds	J (all detects)	P	Surrogate spikes (%R) (S)
280-15069-1	TB_PZ-035_042611	All TCL compounds except Acrolein Acrylonitrile	J (all detects)	A	Surrogate spikes (%R) (S)
280-15069-1	TB_PZ-035_042611	Acrolein Acrylonitrile	J (all detects) UJ (all non-detects)	A	Surrogate spikes (%R) (S)
280-15069-1	PZ-139_042611_01	1,1,2,2-Tetrachloroethane	J (all detects)	A	Matrix spike/Matrix spike duplicate (RPD) (Q)
280-15069-1	PZ-139_042611_01	1,2,4-Trimethylbenzene cis-1,2-Dichloroethene p-Cymene sec-Butylbenzene Trichloroethene	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
280-15069-1	PZ-139_042611_01 EB_PZ-139_042611 TB_PZ-139_042611	Cumene	J (all detects)	P	Laboratory control samples (%R) (L)
280-15069-1	RD-55A_042611_01 RD-55B_042611_01 TB_RD-55B_042611 PZ-139_042611_01 EB_PZ-139_042611 TB_PZ-139_042611 ES-26_042611_01 ES-26_042611_36 TB_ES-26_042611 PZ-035_042611_01 TB_PZ-035_042611	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-15069-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-15069-1

No Sample Data Qualified in this SDG

LDC #: 25528A1a

VALIDATION COMPLETENESS WORKSHEET

Date: 6/02/11

SDG #: 280-15069-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JVB
2nd Reviewer: JVB

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/26/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	SW	LCS 1b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D = 7, 8
XVII.	Field blanks	ND, SW	TB = 3, 6, 9, 11 EB = 5, EB_SH-04-040711 (280-1937)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

FB = FB_041411-19 (280-14655-1)
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	RD-55A_042611_01	11	TB_PZ-035_042611	21	MB 280-64871/5	31	(FFF, 6666, II)
2	RD-55B_042611_01	12	PZ-139_042611_01MS	22	MB 280-66578/7	32	
3	TB_RD-55B_042611	13	PZ-139_042611_01MSD	23	MB 280-66548/11	33	(S only)
4	PZ-139_042611_01	14		24		34	
5	EB_PZ-139_042611	15		25		35	
6	TB_PZ-139_042611	16		26		36	
7	ES-26_042611_01	17		27		37	
8	ES-26_042611_36	18		28		38	
9	TB_ES-26_042611	19		29		39	
10	PZ-035_042611_01	20		30		40	

VOCs + IPA = 1-3, 7-9
Std Water = 4, 5, 6
VOCs, IPA, APPIX, AA = 10, 11

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC. 1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl chloride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN. <i>Cumene</i>
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO. <i>p-Cymene</i>
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Diisopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

Surrogate Spikes

Reviewer: MC

2nd Reviewer: Q

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N / N/A Were all surrogate %R within QC limits?

Y N / N/A If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R out of outside of criteria?

#	Date	Sample ID	Surrogate	%Recovery (Limits)	Qualifications
		4	TOL	111 (88-110)	J dets / A (qual all TCL except S, FFFF, GGGG, IL)
		4		111	(qual FFFF, GGGG, II)
		5		114	
		5		111	(qual all except FFFF, GGGG, II)
		6		118	(qual FFFF, GGGG, II)
		6		113	(qual all except FFFF, GGGG, II)
		7		112	J dets / P (qual all TCL)
		8		112	
		9		112	
		10		117	J dets / A (qual FFFF, GGGG)
		10		114	(qual all except FFFF, GGGG)

QC Limits (Soil)
 85-115
 85-120
 60-120
 75-125

QC Limits (Water)
 85-120
 75-120
 70-120
 85-115

SMC1 (TOL) = Toluene-d8
 SMC2 (BFB) = Bromofluorobenzene
 SMC3 (DCE) = 1,2-Dichloroethane-d4
 SMC4 (DFM) = Dibromofluoromethane

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GC MS Volatiles (EPA SW 846 Method 8260B)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent only)
	7	8		
1,1,2-Trichloro-1,2,2-trifluoroethane	9.3	8.5	9	
cis-1,2 -Dichloroethene	1.4	1.4	0	
Trichloroethene	5.1	5.3	4	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 26, 2011

LDC Report Date: June 3, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15069-1

Sample Identification

RD-55A_042611_01
RD-55B_042611_01
TB_RD-55B_042611
PZ-139_042611_01
EB_PZ-139_042611
ES-26_042611_01
ES-26_042611_36
TB_ES-26_042611
PZ-035_042611_01
TB_PZ-035_042611

Introduction

This data review covers 10 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-dioxane was found in the method blanks.

Samples TB_RD-55B_042611, TB_ES-26_042611, and TB_PZ-035_042611 were identified as trip blanks. No 1,4-dioxane was found in these blanks.

Samples EB_SH-04_040711 (from SDG 280-14379-1) and EB_PZ-139_042611 were identified as equipment blanks. No 1,4-dioxane was found in these blanks.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No 1,4-dioxane was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15069-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples ES-26_042611_01 and ES-26_042611_36 were identified as field duplicates. No 1,4-dioxane was detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-15069-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15069-1	RD-55A_042611_01 RD-55B_042611_01 TB_RD-55B_042611 PZ-139_042611_01 EB_PZ-139_042611 ES-26_042611_01 ES-26_042611_36 TB_ES-26_042611 PZ-035_042611_01 TB_PZ-035_042611	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-15069-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-15069-1**

No Sample Data Qualified in this SDG

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/26/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LOS 1D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	ND	D = 6,7
XVII.	Field blanks	ND	TB = 3, 8, 10 EB = 5, EB_SH-04_0407/11

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

FB = FB 5/14/11-15 (280-146551)

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

(280-14379-1)

Validated Samples:

Water

1	RD-55A_042611_01	11	MB 280-64990/26	21	31
2	RD-55B_042611_01	12	MB 280-66254/17	22	32
3	TB_RD-55B_042611	13		23	33
4	PZ-139_042611_01	14		24	34
5	EB_PZ-139_042611	15		25	35
6	ES-26_042611_01 D	16		26	36
7	ES-26_042611_36 D	17		27	37
8	TB_ES-26_042611	18		28	38
9	PZ-035_042611_01	19		29	39
10	TB_PZ-035_042611	20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 26, 2011

LDC Report Date: June 3, 2011

Matrix: Water

Parameters: 1,2,3-Trichloropropane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15069-1/IUD2837

Sample Identification

PZ-035_042611_01
TB_PZ-035_042611

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-Trichloropropane was found in the method blanks.

Sample TB_PZ-035_042611 was identified as a trip blank. No 1,2,3-Trichloropropane was found in this blank.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No 1,2,3-Trichloropropane was found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No 1,2,3-Trichloropropane was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15069-1/IUD2837	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011

1,2,3-Trichloropropane - Data Qualification Summary - SDG 280-15069-1/IUD2837

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15069-1/ IUD2837	PZ-035_042611_01 TB_PZ-035_042611	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011

1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG 280-15069-1/IUD2837

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011

1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG 280-15069-1/IUD2837

No Sample Data Qualified in this SDG

LDC #: 25528A1c **VALIDATION COMPLETENESS WORKSHEET**

SDG #: 280-15069-1/IUD2837

Level V

Laboratory: Test America, Inc.

Date: 6/21/11

Page: 1 of 1

Reviewer: *Me*

2nd Reviewer: *Q*

METHOD: GC/MS 1,2,3-Trichloropropane (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/26/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 2 FB = FB_041411-19 (280-146551)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinstate
 FB = Field blank

EB = EB_54-04-040711 (280-14579-1)
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	PZ-035_042611_01	11	11 E0231-BUK1	21		31
2	TB_PZ-035_042611	12		22		32
3		13		23		33
4		14		24		34
5		15		25		35
6		16		26		36
7		17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing.SSFL GW 2nd Qtr, 2011

Collection Date: April 26, 2011

LDC Report Date: June 3, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15069-1

Sample Identification

RD-55A_042611_01
RD-55B_042611_01
PZ-139_042611_01
EB_PZ-139_042611
ES-26_042611_01
ES-26_042611_36
PZ-035_042611_01

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-64644/1-A	4/28/11	Diethylphthalate	2.94 ug/L	All samples in SDG 280-15069-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
RD-55A_042611_01	Diethylphthalate	1.8 ug/L	9.5U ug/L
RD-55B_042611_01	Diethylphthalate	1.8 ug/L	9.5U ug/L
PZ-139_042611_01	Diethylphthalate	2.8 ug/L	9.6U ug/L
EB_PZ-139_042611	Diethylphthalate	1.3 ug/L	9.6U ug/L
ES-26_042611_01	Diethylphthalate	1.3 ug/L	10U ug/L

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
ES-26_042611_36	Diethylphthalate	1.1 ug/L	10U ug/L
PZ-035_042611_01	Diethylphthalate	0.96 ug/L	10U ug/L

Sample EB_SH-04_040711 (from SDG 280-14379-1) and EB_PZ-139_042611 were identified as equipment blanks. No semivolatile contaminants were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-139_042611	4/26/11	Diethylphthalate	1.3 ug/L	PZ-139_042611_01

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No semivolatile contaminants were found in this blank.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-139_042611_01	Diethylphthalate	2.8 ug/L	9.6U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there was insufficient sample volume for analysis of the matrix spike and matrix spike duplicate.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15069-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples ES-26_042611_01 and ES-26_042611_36 were identified as field duplicates. No semivolatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	ES-26_042611_01	ES-26_042611_36			
Dimethylphthalate	1.3	1.1	17 (≤35)	-	-

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-15069-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15069-1	RD-55A_042611_01 RD-55B_042611_01 PZ-139_042611_01 EB_PZ-139_042611 ES-26_042611_01 ES-26_042611_36 PZ-035_042611_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-15069-1**

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-15069-1	RD-55A_042611_01	Diethylphthalate	9.5U ug/L	A	B
280-15069-1	RD-55B_042611_01	Diethylphthalate	9.5U ug/L	A	B
280-15069-1	PZ-139_042611_01	Diethylphthalate	9.6U ug/L	A	B
280-15069-1	EB_PZ-139_042611	Diethylphthalate	9.6U ug/L	A	B
280-15069-1	ES-26_042611_01	Diethylphthalate	10U ug/L	A	B
280-15069-1	ES-26_042611_36	Diethylphthalate	10U ug/L	A	B
280-15069-1	PZ-035_042611_01	Diethylphthalate	10U ug/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles- Field Blank Data Qualification Summary - SDG 280-15069-1**

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-15069-1	PZ-139_042611_01	Diethylphthalate	9.6U ug/L	A	F

LDC #: 25528A2a
 SDG #: 280-15069-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 6/02/11
 Page: 1 of 1
 Reviewer: JVP
 2nd Reviewer: [Signature]

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/26/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS 1b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D = 5.6
XVII.	Field blanks	SW	EB = 4, *EB-SH-04-040711 (280-14379-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

*ND = No compounds detected
 R = Rinsate
 FB = Field blank

*FB = FB-041411-19 (280-14655-1)
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	RD-55A_042611_01	11	MB 280-64644/1-A	21		31
2	RD-55B_042611_01	12		22		32
3	PZ-139_042611_01	13		23		33
4	EB_PZ-139_042611	14				34
5	ES-26_042611_01 D	15		25		35
6	ES-26_042611_36 D	16		26		36
7	PZ-035_042611_01	17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

Phthalates + NB = 1, 2, 3
 Full water = 3, 4
 Phthalates + NB + A = 5, 6
 APP IX = 7

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis(2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes: * = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

Blanks

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- Y N N/A Was a method blank analyzed for each matrix?
- Y N N/A Was a method blank analyzed for each concentration preparation level?
- Y N N/A Was a method blank associated with every sample?
- Y N N/A Was the blank contaminated? If yes, please see qualification below.

Blank extraction date: 4/28/11 Blank analysis date: 5/04/11

Conc. units: µg/L Associated Samples: A11 Code: B

Compound	Blank ID	Sample Identification						
<u>MB</u>	<u>286-6464A-A</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
<u>LL</u>	<u>2.94</u>	<u>1.8/9.54</u>	<u>1.8/9.54</u>	<u>2.8/9.64</u>	<u>1.3/9.64</u>	<u>1.3/104</u>	<u>1.1/104</u>	<u>0.96/104</u>

Blank extraction date: _____ Blank analysis date: _____
 Conc. units: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification						

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GC MS SVOA (EPA SW 846 Method 8270C)

Y ~~N~~ NA Were field duplicate pairs identified in this SDG?

Y ~~N~~ NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(<35) RPD	Qualifications (Parent only)
	5	6		
Diethyl phthalate	1.3	1.1	17	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 26, 2011

LDC Report Date: June 3, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15069-1

Sample Identification

RD-55A_042611_01
RD-55B_042611_01
PZ-139_042611_01
EB_PZ-139_042611
ES-26_042611_01
ES-26_042611_36
PZ-035_042611_01

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-nitrosodimethylamine was found in the method blanks.

Samples EB_SH-04_040711 (from SDG 280-14379-1), EB_PZ-035_042611 (from SDG 15069-2), and EB_PZ-139_042611 were identified as equipment blanks. No N-nitrosodimethylamine was found in these blanks.

Samples FB_041411_19 (from SDG 14655-1) and FB_PZ-035_042611_19 (from SDG 280-15069-2) were identified as field blanks. No N-nitrosodimethylamine was found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15069-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples ES-26_042611_01 and ES-26_042611_36 and samples PZ-035_042611_01 and PZ-035_042611_36 (from SDG 280-15069-2) were identified as field duplicates. No N-nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	PZ-035_042611_01	PZ-035_042611_36			
N-Nitrosodimethylamine	0.0098	0.016	48 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-15069-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15069-1	RD-55A_042611_01 RD-55B_042611_01 PZ-139_042611_01 EB_PZ-139_042611 ES-26_042611_01 ES-26_042611_36 PZ-035_042611_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary – SDG 280-15069-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-15069-1**

No Sample Data Qualified in this SDG

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/26/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS / D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SWD	D ₁ = 5, 6 D ₂ = 7 + PZ-035-042611-36 (280-15069-2)
XVII.	Field blanks	ND	EB = 4 EB: SH-04-040711 (280-14374-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinse
 FB = Field blank

FB = FB-041411-19 (280-14655-1)
 D = Duplicate = FB_PZ-035-042611-19
 TB = Trip blank
 EB = Equipment blank = EB_PZ-035-042611 (280-15069)

Validated Samples:

Water

1	RD-55A_042611_01	11	MB 280-64943 / -A	21		31
2	RD-55B_042611_01	12		22		32
3	PZ-139_042611_01	13		23		33
4	EB_PZ-139_042611	14		24		34
5	ES-26_042611_01 <i>D</i>	15		25		35
6	ES-26_042611_36 <i>D</i>	16		26		36
7	PZ-035_042611_01	17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GCMS NDMA (EPA Method 1625M)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent Only)
	PZ-035_042611_01	PZ-035_042611_36		
NDMA	0.0098	0.016	48	NQ(<5XRL)

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 26, 2011

LDC Report Date: June 3, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15069-1

Sample Identification

PZ-139_042611_01
EB_PZ-139_042611

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per a modification of EPA SW 846 Method 8270C using Selected Ion Monitoring (SIM) for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-64929/1-A	4/29/11	Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	0.164 ug/L 0.171 ug/L	All samples in SDG 280-15069-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
PZ-139_042611_01	Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	0.27 ug/L 0.23 ug/L	9.5U ug/L 9.5U ug/L
EB_PZ-139_042611	Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	0.16 ug/L 0.20 ug/L	9.5U ug/L 9.5U ug/L

Sample EB_PZ-139_042611 was identified as an equipment blank. No semivolatile contaminants were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-139_042611	4/26/11	Bis(2-ethylhexyl)phthalate Di-n-butylphthalate Di-n-octylphthalate	0.16 ug/L 0.012 ug/L 0.20 ug/L	PZ-139_042611_01

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No semivolatile contaminants were found in this blank.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-139_042611_01	Bis(2-ethylhexyl)phthalate Di-n-butylphthalate Di-n-octylphthalate	0.27 ug/L 0.027 ug/L 0.23 ug/L	9.5U ug/L 9.5U ug/L 9.5U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15069-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles- Data Qualification Summary - SDG 280-15069-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15069-1	PZ-139_042611_01 EB_PZ-139_042611	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles- Laboratory Blank Data Qualification Summary - SDG 280-15069-1**

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-15069-1	PZ-139_042611_01	Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	9.5U ug/L 9.5U ug/L	A	B
280-15069-1	EB_PZ-139_042611	Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	9.5U ug/L 9.5U ug/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles- Field Blank Data Qualification Summary - SDG 280-15069-1**

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-15069-1	PZ-139_042611_01	Bis(2-ethylhexyl)phthalate Di-n-butylphthalate Di-n-octylphthalate	9.5U ug/L 9.5U ug/L 9.5U ug/L	A	F

LDC #: 25528A2c

VALIDATION COMPLETENESS WORKSHEET

Date: 6/02/11

SDG #: 280-15069-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JVG

2nd Reviewer: [Signature]

METHOD: GC/MS ^{Semivolatile} Polynuclear Aromatic Hydrocarbons (EPA SW846 Method 8270C-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

Validation Area			Comments
I.	Technical holding times	A	Sampling dates: 4/26/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS 1D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	EB = 2 FB = FB_04141119 (260-14655-1)

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: *Water*

1	PZ-139_042611_01	11	MB 280-64929 / -A	21		31	
2	EB_PZ-139_042611	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes: * = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 26, 2011

LDC Report Date: June 3, 2011

Matrix: Water

Parameters: Pentachlorophenol

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15069-1

Sample Identification

PZ-035_042611_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Pentachlorophenol.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No pentachlorophenol was found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No pentachlorophenol was found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No pentachlorophenol was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15069-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Data Qualification Summary - SDG 280-15069-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15069-1	PZ-035_042611_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Laboratory Blank Data Qualification Summary - SDG 280-15069-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Field Blank Data Qualification Summary - SDG 280-15069-1**

No Sample Data Qualified in this SDG

LDC #: 25528A2d

VALIDATION COMPLETENESS WORKSHEET

Date: 6/02/11

SDG #: 280-15069-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: *ML*
2nd Reviewer: *[Signature]*

METHOD: GC/MS Pentachlorophenol (EPA SW848 Method 8270C-H)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/26/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	US 1b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	FB = FB_041411_19 (280-14655-1) EB = EB_SH-04-040711 (280-14379-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinstate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

WATER

1	PZ-035_042611_01	11	MB 280-64657/A	21	31
2		12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 26, 2011

LDC Report Date: June 3, 2011

Matrix: Water

Parameters: Chlorinated Pesticides

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15069-1

Sample Identification

PZ-035_042611_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No chlorinated pesticides were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No chlorinated pesticides were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Column	Surrogate	%R (Limits)	Compound	Flag	A or P
MB 280-64687/1-A	Col 1	Tetrachloro-m-xylene	51 (60-140)	All TCL compounds	J (all detects) UJ (all non-detects)	P
MB 280-64687/1-A	Col 2	Tetrachloro-m-xylene	52 (60-140)	All TCL compounds	J (all detects) UJ (all non-detects)	P

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

All target compound identifications were within validation criteria.

XIII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15069-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Data Qualification Summary - SDG 280-15069-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15069-1	PZ-035_042611_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 280-15069-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Field Blank Data Qualification Summary - SDG 280-15069-1**

No Sample Data Qualified in this SDG

LDC #: 25528A3a
 SDG #: 280-15069-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 6/2/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/26/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS 1D
IX.	Regional quality assurance and quality control	N	
X.	Florisil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation and reported CRQLs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates	N	
XVI.	Field blanks	ND	FB = FB-041411-19 (280-14655-1) EB = EB-SH-04-040711 (280-14379-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinstate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: Water

1	PZ-035_042611_01	11	MB 280-64687 A-A	21		31	
2		12				32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 26, 2011

LDC Report Date: June 3, 2011

Matrix: Water

Parameters: Polychlorinated Biphenyls

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15069-1

Sample Identification

PZ-139_042611_01
EB_PZ-139_042611
PZ-035_042611_01

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyls were found in the method blanks.

Samples EB_PZ-139_042611 and EB_SH-04_040711 (from SDG 280-14379-1) were identified as equipment blanks. No polychlorinated biphenyls were found in these blanks.

Sample FB_041411_19 (280-14655-1) was identified as a field blank. No polychlorinated biphenyls were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

Raw data were not reviewed for this SDG.

XIII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15069-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Data Qualification Summary - SDG 280-15069-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15069-1	PZ-139_042611_01 EB_PZ-139_042611 PZ-035_042611_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 280-15069-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG 280-15069-1**

No Sample Data Qualified in this SDG

LDC #: 25528A3b
 SDG #: 280-15089-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 6/02/11
 Page: 1 of 1
 Reviewer: NG
 2nd Reviewer: T

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/26/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS / D
IX.	Regional quality assurance and quality control	N	
X.	Florissl cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation and reported CRQLs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates	N	
XVI.	Field blanks	ND	EB = 2, EB-SH04_040711 (280-14379-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinstate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	PZ-139_042611_01	11	MB 280-64687/-A	21	31
2	EB_PZ-139_042611	12		22	32
3	PZ-035_042611_01	13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 26, 2011
LDC Report Date: May 31, 2011
Matrix: Water
Parameters: Metals
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-15069-1

Sample Identification

ES-26_042611_01
ES-26_042611_36
PZ-035_042611_01
PZ-139_042611_01F
EB_PZ-139_042611F
ES-26_042611_01F
ES-26_042611_36F
PZ-035_042611_01F
ES-26_042611_01MS
ES-26_042611_01MSD
PZ-035_042611_01MS
PZ-035_042611_01MSD
PZ-139_042611_01FMS
PZ-139_042611_01FMSD

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 14 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B, 6020, and 7000 for Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No metal contaminants were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Cobalt Copper Tin	0.0000195 mg/L 0.00194 mg/L 0.000891 mg/L	PZ-139_042611_01F EB_PZ-139_042611F PZ-035_042611_01F
PB (prep blank)	Manganese	0.000883 mg/L	PZ-139_042611_01F EB_PZ-139_042611F

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
PZ-139_042611_01F	Copper	0.0047 mg/L	0.0047U mg/L
EB_PZ-139_042611F	Cobalt	0.000011 mg/L	0.000011U mg/L
PZ-035_042611_01F	Copper	0.00082 mg/L	0.00082U mg/L

Samples EB_SH-04_040711 and EB_SH-04-040711F (both from SDG 280-14379-1) and sample EB_PZ-139_042611F were identified as equipment blanks. No metal contaminants were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_SH-04_040711	4/7/11	Tin Mercury	0.00028 mg/L 0.000037 mg/L	PZ-035_042611_01
EB_SH-04_040711F	4/7/11	Silver Tin Mercury	0.000018 mg/L 0.000030 mg/L 0.000034 mg/L	PZ-035_042611_01F
EB_PZ-139_042611F	4/7/11	Boron Sodium Cobalt Silver	0.0060 mg/L 0.30 mg/L 0.000011 mg/L 0.000066 mg/L	PZ-139_042611_01F

Samples FB_041411_19 and FB_041411_19F (both from SDG 280-14655-1) were identified as a field blanks. No metal contaminants were found in these blanks with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_041411_19F	4/14/11	Iron Manganese Sodium	0.082 mg/L 0.0012 mg/L 0.29 mg/L	PZ-139_042611_01F
FB_041411_19F	4/14/11	Tin	0.00017 mg/L	PZ-035_042611_01F

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
PZ-139_042611_01F	Silver Iron	0.000037 mg/L 0.10 mg/L	0.000037U mg/L 0.10U mg/L

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
PZ-139_042611_01FMS/D (PZ-139_042611_01F EB_PZ-139_042611F PZ-035_042611_01F)	Barium	-	127 (75-125)	-	J (all detects)	A

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Analyte	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS (PZ-035_042611_01)	Mercury	88 (90-115)	-	-	J (all detects) UJ (all non-detects)	P

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution data were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-15069-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

Samples ES-26_042611_01 and ES-26_042611_36, and samples ES-26_042611_01F and ES-26_042611_36F were identified as field duplicates. No metals were detected in any of the samples with the following exceptions:

Compound	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	ES-26_042611_01	ES-26_042611_36			
Calcium	150	150	0 (≤35)	-	-
Iron	0.022	0.022U	0 (≤35)	-	-
Magnesium	17	17	0 (≤35)	-	-
Manganese	0.60	0.61	2 (≤35)	-	-
Potassium	2.5	2.6	4 (≤35)	-	-
Sodium	98	95	3 (≤35)	-	-
Strontium	0.81	0.82	1 (≤35)	-	-
Zinc	0.097	0.099	2 (≤35)	-	-

Compound	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	ES-26_042611_01F	ES-26_042611_36F			
Calcium	150	160	6 (≤35)	-	-
Magnesium	18	18	0 (≤35)	-	-
Manganese	0.60	0.61	2 (≤35)	-	-
Potassium	2.5	2.6	4 (≤35)	-	-
Sodium	97	99	2 (≤35)	-	-
Strontium	0.83	0.84	1 (≤35)	-	-
Zinc	0.077	0.078	1 (≤35)	-	-

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Data Qualification Summary - SDG 280-15069-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-15069-1	PZ-139_042611_01F EB_PZ-139_042611F PZ-035_042611_01F	Barium	J (all detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
280-15069-1	PZ-035_042611_01	Mercury	J (all detects) UJ (all non-detects)	P	Laboratory control samples (%R) (L)
280-15069-1	ES-26_042611_01 ES-26_042611_36 PZ-035_042611_01 PZ-139_042611_01F EB_PZ-139_042611F ES-26_042611_01F ES-26_042611_36F PZ-035_042611_01F	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Laboratory Blank Data Qualification Summary - SDG 280-15069-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-15069-1	PZ-139_042611_01F	Copper	0.0047U mg/L	A	B
280-15069-1	EB_PZ-139_042611F	Cobalt	0.000011U mg/L	A	B
280-15069-1	PZ-035_042611_01F	Copper	0.00082U mg/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Field Blank Data Qualification Summary - SDG 280-15069-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-15069-1	PZ-139_042611_01F	Silver Iron	0.000037U mg/L 0.10U mg/L	A	F

LDC #: 25528A4
 SDG #: 280-15069-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5-31-11

Page: 1 of 1

Reviewer: MG

2nd Reviewer: V

METHOD: Metals (EPA SW 846 Method 6010B/6020/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4-26-11</u>
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	SW	<u>MS/MSD</u>
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	SW	<u>LCS/LCSD</u>
IX.	Internal Standard (ICP-MS)	N	<u>not reviewed</u>
X.	Furnace Atomic Absorption QC	N	<u>not utilized</u>
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	
XIV.	Field Duplicates	SW	<u>D=1+2 D=6+7</u>
XV.	Field Blanks	SW	<u>FB= FB-041411-19 } SDG: 280-14655-1</u> <u>FB= FB-041411-19F</u>

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

all water

EB = 5, EB-SH-04-040711 } SDG: 280-14379-1
EB-SH-04-040711F

1	ES-26_042611_01	11	PZ-035_042611_01MS	21		31	
2	ES-26_042611_36	12	PZ-035_042611_01MSD	22		32	
3	PZ-035_042611_01	13	PZ-139_042611_01FMS	23		33	
4	PZ-139_042611_01F	14	PZ-139_042611_01FMSD	24		34	
5	EB_PZ-139_042611F	15		25		35	
6	ES-26_042611_01F	16		26		36	
7	ES-26_042611_36F	17		27		37	
8	PZ-035_042611_01F	18		28		38	
9	ES-26_042611_01MS	19		29	<u>PBW1</u>	39	
10	ES-26_042611_01MSD	20		30	<u>PBW2</u>	40	

Notes: Samples appended with "F" were analyzed for dissolved metals

VALIDATION FINDINGS WORKSHEET
 PB/ICB/CCB QUALIFIED SAMPLES

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)

Soil preparation factor applied: NA

Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 4, 5, 8 Qual: U (B) M4 245

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	4	5	8						
Co		0.0000195		0.0000975		0.000011							
Cu		0.00194		0.0097	0.0047		0.00082						
Mn		0.000883		0.004415									
Sn		0.000891		0.004455									

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)
 Were field blanks identified in this SDG? Y/N N/A
 Were target analytes detected in the field blanks? N/A
 Associated sample units: mg/L
 Soil factor applied: NA
 Sampling date: 4/7/11
 Field blank type: (circle one) Field Blank / Rinsate Other EB Associated Samples: 3 (ND)

Analyte	Blank ID	Action Level	No Qual's	Sample Identification
	EB_SH-04_040711			
Sn	0.00028	0.0014		
Hg	0.000037	0.000185		

Blank units: mg/L Associated sample units: mg/L
 Sampling date: 4/7/11 Soil factor applied: NA Qual: U (F)
 Field blank type: (circle one) Field Blank / Rinsate Other EB Associated Samples: 8 (ND)

Analyte	Blank ID	Action Level	No Qual's	Sample Identification
	EB_SH-04_040711F			
Ag	0.000018	0.00009		
Sn	0.00030	0.0015		
Hg	0.000034	0.00017		

Blank units: mg/L Associated sample units: mg/L
 Sampling date: 4/7/11 Soil factor applied: NA Qual: U (F)
 Field blank type: (circle one) Field Blank / Rinsate Other EB Associated Samples: 4

Analyte	Blank ID	Action Level	No Qual's	Sample Identification
	5		4	
B	0.0060	0.03		
Na	0.30	1.5		
Co	0.000011	0.000055		
Ag	0.000066	0.00033	0.000037	

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

N/A Were field blanks identified in this SDG?
 N/A Were target analytes detected in the field blanks?

Blank units: mg/L Associated sample units: mg/L

Sampling date: 4/14/11 Soil factor applied: NA

Field blank type: (circle one) Field Blank / Rinsate / Other: Field Blank

Associated Samples: 3 (Not analyzed for Fe)

Analyte	Blank ID	Sample Identification			
Fe	FB_041411_19	Action Level	No Qual's		
	0.030	0.15			

Blank units: mg/L Associated sample units: mg/L

Sampling date: 4/14/11 Soil factor applied: NA

Field blank type: (circle one) Field Blank / Rinsate / Other: Field Blank

Qual: U (F)

Associated Samples: 4, 8 (#4 not analyzed for Sn, #8 not analyzed for Fe, Mn, Na)

Analyte	Blank ID	Sample Identification			
Fe	FB_041411_19F	Action Level	4		
	0.082	0.41	0.10		
Mn	0.0012	0.006			
Na	0.29	1.45			
Sn	0.00017	0.00085			

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET

Field Duplicates

METHOD: Metals (EPA Method 6010B/7000)

 Y/N/NA
 Y/N/NA

Were field duplicate pairs identified in this SDG?

Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤ 35)	
	1	2		
Calcium	150	150	0	
Iron	0.022	0.022U	0	
Magnesium	17	17	0	
Manganese	0.60	0.61	2	
Potassium	2.5	2.6	4	
Sodium	98	95	3	
Strontium	0.81	0.82	1	
Zinc	0.097	0.099	2	

V:\FIELD DUPLICATES\FD_inorganic\25528A4.WPD

Analyte	Concentration (mg/L)		RPD (≤ 35)	
	6	7		
Calcium	150	160	6	
Magnesium	18	18	0	
Manganese	0.60	0.61	2	
Potassium	2.5	2.6	4	
Sodium	97	99	2	
Strontium	0.83	0.84	1	
Zinc	0.077	0.078	1	

V:\FIELD DUPLICATES\FD_inorganic\25528A4.WPD

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 26, 2011

LDC Report Date: June 3, 2011

Matrix: Water

Parameters: Herbicides

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15069-1

Sample Identification

PZ-035_042611_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8151A for Herbicides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No herbicide contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
MB 280-65283/1-A	5/3/11	2,4-D	0.372 ug/L	All samples in SDG 280-15069-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No herbicide contaminants were found in this blank.

Sample FB_041411_19 (280-14655-1) was identified as a field blank. No herbicide contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/(Matrix Spike) Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15069-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Data Qualification Summary - SDG 280-15069-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15069-1	PZ-035_042611_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Laboratory Blank Data Qualification Summary - SDG 280-15069-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Field Blank Data Qualification Summary - SDG 280-15069-1**

No Sample Data Qualified in this SDG

LDC #: 25528A5
 SDG #: 280-15069-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 6/02/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: _____

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/26/11</u>
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	SW	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	<u>Client spec</u>
VII.	Laboratory control samples	A	<u>2 CS 1D</u>
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	<u>FB = FB_041411-19 (280-14655-1)</u> <u>EB = EB_SA-04-040711 (280-14379-1)</u>

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	PZ-035_042611_01	11	<u>MB 280-65283/A</u>	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

VALIDATION FINDINGS WORKSHEET

METHOD: GC HPLC

8310	8330	8151	8141	8141 (Cont'd)	8021B
A. Acenaphthene	A. HMX	A. 2,4-D	A. Dichlorvos	V. Fensulfothion	V. Benzene
B. Acenaphthylene	B. RDX	B. 2,4-DB	B. Mevinphos	W. Bolstar	CC. Toluene
C. Anthracene	C. 1,3,5-Trinitrobenzene	C. 2,4,5-T	C. Demeton-O	X. EPN	EE. Ethyl Benzene
D. Benzo(a)anthracene	D. 1,3-Dinitrobenzene	D. 2,4,5-TP	D. Demeton-S	Y. Azinphos-methyl	SSS. O-Xylene
E. Benzo(a)pyrene	E. Teiry	E. Dinoseb	E. Ethoprop	Z. Coumaphos	RRR. MP-Xylene
F. Benzo(b)fluoranthene	F. Nitrobenzene	F. Dichlorprop	F. Naled	AA. Parathion	GG. Total Xylene
G. Benzo(g,h,i)perylene	G. 2,4,6-Trinitrotoluene	G. Dicamba	G. Sulfotep	BB. Trichloronate	
H. Benzo(k)fluoranthene	H. 4-Amino-2,6-dinitrotoluene	H. Dalapon	H. Phorate	CC. Trichlorinate	
I. Chrysene	I. 2-Amino-4,6-dinitrotoluene	I. MCPP	I. Dimethoate	DD. Trifluralin	
J. Dibenz(a,h)anthracene	J. 2,4-Dinitrotoluene	J. MCPA	J. Diazinon	EE. Def	
K. Fluoranthene	K. 2,6-Dinitrotoluene	K. Pentachlorophenol	K. Disulfoton	FF. Prowl	
L. Fluorene	L. 2-Nitrotoluene	L. 2,4,5-TP (silvex)	L. Parathion-methyl	GG. Ethion	
M. Indeno(1,2,3-cd)pyrene	M. 3-Nitrotoluene	M. Silvex	M. Ronnel	HH. Famphur	
N. Naphthalene	N. 4-Nitrotoluene		N. Malathion	II. Phosmet	
O. Phenanthrene	O. Nitroglycerin		O. Chlorpyrifos	JJ. Tetraclorvinphos	
P. Pyrene	P.		P. Fenithion	KK. Demeton (total)	
Q.	Q		Q. Parathion-ethyl		
R.			R. Trichlormate		
S.			S. Merphos		
			T. Sitrofos		
			U. Tokuthion		

Notes:

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 26, 2011
LDC Report Date: June 2, 2011
Matrix: Water
Parameters: Wet Chemistry
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-15069-1

Sample Identification

RD-55A_042611_01
RD-55B_042611_01
PZ-139_042611_01
EB_PZ-139_042611
ES-26_042611_01
ES-26_042611_36
PZ-035_042611_01
RD-55A_042611_01DUP
PZ-139_042611_01MS
PZ-139_042611_01MSD
PZ-139_042611_01DUP
ES-26_042611_01MS
ES-26_042611_01MSD
ES-26_042611_36DUP
PZ-035_042611_01MS
PZ-035_042611_01MSD

Introduction

This data review covers 16 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Standard Method 2320B for Alkalinity, EPA Method 350.1 for Ammonia as Nitrogen, EPA Method 300.0 for Bromide, Chloride, Fluoride, Nitrate, Nitrite, Orthophosphate, and Sulfate, Standard Method 2510B for Conductivity, EPA SW 846 Method 9012A for Cyanide, EPA SW 846 Method 7196A for Hexavalent Chromium and Dissolved Hexavalent Chromium, EPA Method 314.0 for Perchlorate, EPA SW 846 Method 9040B for pH, Standard Method 4500-S2 D for Sulfide, Standard Method 2540C for Total Dissolved Solids, and EPA Method 180.1 for Turbidity.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P	
RD-55A_042611_01	Nitrate	64.00 hours	48 hours	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P	
	pH	101.25 hours	48 hours			
RD-55B_042611_01	Nitrate	65.00 hours	48 hours	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P	
	pH	102.00 hours	48 hours			
PZ-139_042611_01	Nitrate	57.50 hours	48 hours	J (all detects) UJ (all non-detects)	P	
	Nitrite	57.50 hours	48 hours			
	Orthophosphate	57.50 hours	48 hours			
EB_PZ-139_042611	Nitrate	57.75 hours	48 hours	J (all detects) UJ (all non-detects)	P	
	Nitrite	57.75 hours	48 hours			
	Orthophosphate	57.75 hours	48 hours			
ES-26_042611_01	Nitrate	65.00 hours	48 hours	J (all detects) UJ (all non-detects)	P	
	pH	101.75 hours	48 hours			
	Turbidity	51.50 hours	48 hours			
ES-26_042611_36	Nitrate	65.25 hours	48 hours	J (all detects) UJ (all non-detects)	P	
	pH	101.75 hours	48 hours			
	Turbidity	51.50 hours	48 hours			
PZ-035_042611_01	Nitrate	66.00 hours	48 hours	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P	
	pH	102.50 hours	48 hours			
RD-55A_042611_01DUP	pH	101.25 hours	48 hours	J (all detects) UJ (all non-detects)	P	
PZ-139_042611_01 EB_PZ-139_042611 PZ-139_042611_01MS PZ-139_042611_01MSD PZ-139_042611_01DUP	Hexavalent chromium	31.75 hours	24 hours	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P	
	Dissolved hexavalent chromium	31.75 hours	24 hours			

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
PB (prep blank)	Ammonia as N	0.0685 mg/L	RD-55A_042611_01 RD-55B_042611_01 ES-26_042611_01 ES-26_042611_36 PZ-035_042611_01
PB (prep blank)	Cyanide	0.00323 mg/L	PZ-035_042611_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
RD-55A_042611_01	Ammonia as N	0.066 mg/L	0.066U mg/L
RD-55B_042611_01	Ammonia as N	0.10 mg/L	0.10U mg/L
PZ-035_042611_01	Ammonia as N	0.074 mg/L	0.074U mg/L
PZ-035_042611_01	Cyanide	0.0047 mg/L	0.0047U mg/L

Samples EB_PZ-139_042611 and EB_SH-04_040711 (from SDG 280-14379-1) were identified as equipment blanks. No contaminant concentrations were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_SH-04_040711	4/7/11	Fluoride Nitrate Ammonia as N Cyanide pH	0.11 mg/L 0.19 mg/L 0.091 mg/L 0.0020 mg/L 5.83 units	PZ-035_042611_01

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No contaminant concentrations were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_041411_19	4/14/11	pH	5.81 units	PZ-139_042611_01 PZ-035_042611_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
PZ-035_042611_01	Ammonia as N Cyanide	0.074 mg/L 0.0047 mg/L	0.074U mg/L 0.0047U mg/L

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-15069-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

Samples ES-26_042611_01 and ES-26_042611_36 were identified as field duplicates. No contaminant concentrations were detected in any of the samples with the following exceptions:

Compound	Concentration		RPD (Limits)	Flag	A or P
	ES-26_042611_01	ES-26_042611_36			
Alkalinity	340 mg/L	310 mg/L	9 (≤35)	-	-
Fluoride	0.52 mg/L	0.53 mg/L	2 (≤35)	-	-
Chloride	100 mg/L	100 mg/L	0 (≤35)	-	-
Nitrate	3.1 mg/L	2.0 mg/L	43 (≤35)	NQ	-
pH	7.75 units	7.58 units	2 (≤35)	-	-
Sulfate	210 mg/L	200 mg/L	5 (≤35)	-	-
Specific conductance	1200 umhos/cm	1200 umhos/cm	0 (≤35)	-	-
Ammonia as N	0.77 mg/L	0.79 mg/L	3 (≤35)	-	-
Total dissolved solids	760 mg/L	770 mg/L	1 (≤35)	-	-
Turbidity	0.30 NTU	0.25 NTU	18 (≤35)	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-15069-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-15069-1	RD-55A_042611_01 RD-55B_042611_01 PZ-035_042611_01	Nitrate pH	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-15069-1	PZ-139_042611_01 EB_PZ-139_042611	Nitrate Nitrite Orthophosphate	J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-15069-1	ES-26_042611_01 ES-26_042611_36	Nitrate pH Turbidity	J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-15069-1	PZ-139_042611_01 EB_PZ-139_042611	Hexavalent chromium Dissolved hexavalent chromium	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-15069-1	RD-55A_042611_01 RD-55B_042611_01 PZ-139_042611_01 EB_PZ-139_042611 ES-26_042611_01 ES-26_042611_36 PZ-035_042611_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-15069-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-15069-1	RD-55A_042611_01	Ammonia as N	0.066U mg/L	A	B
280-15069-1	RD-55B_042611_01	Ammonia as N	0.10U mg/L	A	B
280-15069-1	PZ-035_042611_01	Ammonia as N	0.074U mg/L	A	B
280-15069-1	PZ-035_042611_01	Cyanide	0.0047U mg/L	A	B

Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-15069-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-15069-1	PZ-035_042611_01	Ammonia as N Cyanide	0.074U mg/L 0.0047U mg/L	A	F

LDC #: 25528A6

VALIDATION COMPLETENESS WORKSHEET

Date: 5-31-11

SDG #: 280-15069-1

Level V

Page: 1 of 1

Laboratory: Test America Inc.

Reviewer: MG

2nd Reviewer:

METHOD: (Analyte) Alkalinity (SM2320B), Ammonia-N (EPA Method 350.1), Bromide, Chloride, Fluoride, Nitrate, Nitrite, Orthophosphate, Sulfate (EPA Method 300.0), Conductivity (SM2310B), Cyanide (EPA SW846 Method 9012A), Hexavalent Chromium & Dissolved Hexavalent Chromium (EPA SW846 Method 7196A), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B), Sulfide (SM4500-S2 D), TDS (SM2540C), Turbidity (EPA Method 180.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: 4-26-11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	SW	
IV.	Matrix Spike/Matrix Spike Duplicates	A	MS/MSD
V.	Duplicates	A	DUP
VI.	Laboratory control samples	A	LC5/LCSD
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	SW	D=5+6
X.	Field blanks	SW	EB=4*, EB-SH-04-040711 (SDG: 280-14379-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

* = ND = No compounds detected
R = Rinsate
FB = Field blank

FB = FB-041411-19 (SDG: 280-14655-1)
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

all water

1	RD-55A_042611_01	11	PZ-139_042611_01DUP	21		31	
2	RD-55B_042611_01	12	ES-26_042611_01MS	22		32	
3	PZ-139_042611_01	13	ES-26_042611_01MSD	23		33	
4	EB_PZ-139_042611	14	ES-26_042611_36DUP	24		34	
5	ES-26_042611_01	15	PZ-035_042611_01MS	25		35	
6	ES-26_042611_36	16	PZ-035_042611_01MSD	26		36	
7	PZ-035_042611_01	17		27		37	
8	RD-55A_042611_01DUP	18		28		38	
9	PZ-139_042611_01MS	19		29		39	
10	PZ-139_042611_01MSD	20		30	PBW	40	

Notes: _____

VALIDATION FINDINGS WORKSHEET

Blanks

METHOD: Inorganics, Method See Cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were blank analyses performed as required? If no, please see qualifications below.

Y N N/A Were any activities in the blanks greater than the minimum detectable activity? If yes, please see qualifications below.

Conc. units: mg/L Associated Samples: 1, 2, 5-7 Qual: U (B)

Analyte	Blank ID	Blank ID	Blank Action Limit	1	2	7
	PB	ICB/CCB (mg/L)				
NH3-N	0.0685		0.3425	0.066	0.10	0.074

Conc. units: mg/L Associated Samples: 7 Qual: U (B)

Analyte	Blank ID	Blank ID	Blank Action Limit	7
	PB	ICB/CCB (mg/L)		
CN	0.00323		0.01615	0.0047

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 All contaminants within five times the method blank concentration were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: Inorganics, EPA Method See Cover

N/A Were field blanks identified in this SDG?

N/A Were target analytes detected in the field blanks?

Blank units: mg/L Associated sample units: mg/L

Sampling date: 4/7/11 Soil factor applied NA

Field blank type: (circle one) Field Blank / Rinsate Other

Associated Samples: 7 Qual: U (F)

Analyte	Blank ID	Action Limit	Sample Identification
	EB SH-04 040711		7
F	0.11	0.55	
NO3	0.19	0.95	
NH3-N	0.091	0.455	0.074
CN	0.0020	0.01	0.0047
pH (pH units)	5.83		

Blank units: pH units Associated sample units: pH units

Sampling date: 4/14/11 Soil factor applied NA

Field blank type: (circle one) Field Blank / Rinsate / Other:

Associated Samples: 3, 7

Analyte	Blank ID	Action Limit	Sample Identification
	FB 041411 19		No Qual's.
pH	5.81		

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Inorganics, Method See Cover

- Y N NA Were field duplicate pairs identified in this SDG?
- Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	5	6		
Alkalinity	340	310	9	
Fluoride	0.52	0.53	2	
Chloride	100	100	0	
Nitrate	3.1	2.0	43	No Qual. (SPL)
pH (pH units)	7.75	7.58	2	
Sulfate	210	200	5	
Specific Conductance (umhos/cm)	1200	1200	0	
Ammonia as N	0.77	0.79	3	
TDS	760	770	1	
Turbidity (NTU)	0.30	0.25	18	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 26, 2011

LDC Report Date: June 3, 2011

Matrix: Water

Parameters: Diesel Range Organics

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15069-1

Sample Identification

PZ-139_042611_01
EB_PZ-139_042611
ES-26_042611_01
ES-26_042611_36

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Diesel Range Organics.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No diesel range organic contaminants were found in the method blanks.

Sample EB_PZ-139_042611 was identified as an equipment blank. No diesel range organic contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No diesel range organic contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15069-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples ES-26_042611_01 and ES-26_042611_36 were identified as field duplicates. No diesel range organics were detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Data Qualification Summary - SDG 280-15069-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15069-1	PZ-139_042611_01 EB_PZ-139_042611 ES-26_042611_01 ES-26_042611_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Laboratory Blank Data Qualification Summary - SDG 280-15069-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Field Blank Data Qualification Summary - SDG 280-15069-1**

No Sample Data Qualified in this SDG

LDC #: 25528A8
 SDG #: 280-15069-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 6/02/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

8015 B

METHOD: GC Diesel Range Organics (Oklahoma Department of Environmental Quality)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/26/11</u>
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	A	les 1D
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	ND	D = 3, 4
XIII.	Field blanks	ND	EB = 2 FB = FB_041411-19 (280-146551)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinstate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: Water

1	PZ-139_042611_01	11	MB 280-64894/-A	21	31
2	EB_PZ-139_042611	12		22	32
3	ES-26_042611_01	D 13		23	33
4	ES-26_042611_36	D 14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 26, 2011
LDC Report Date: June 3, 2011
Matrix: Water
Parameters: 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-15069-1

Sample Identification

PZ-035_042611_01
TB_PZ-035_042611

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 504.1 for 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in the method blanks.

Sample TB_PZ-035_042611 was identified as a trip blank. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in this blank.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a trip blank. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D 280-65060/1,2-A (All samples in SDG 280-15069-1)	1,2-Dibromoethane	-	66 (70-130)	-	J (all detects) UJ (all non-detects)	P

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15069-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Data Qualification Summary -
 SDG 280-15069-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15069-1	PZ-035_042611_01 TB_PZ-035_042611	1,2-Dibromoethane	J (all detects) UJ (all non-detects)	P	Laboratory control samples (%R) (L)
280-15069-1	PZ-035_042611_01 TB_PZ-035_042611	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Laboratory Blank Data
 Qualification Summary - SDG 280-15069-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Field Blank Data Qualification
 Summary - SDG 280-15069-1**

No Sample Data Qualified in this SDG

LDC #: 25528A10

VALIDATION COMPLETENESS WORKSHEET

Date: 6/26/11

SDG #: 280-15069-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JB

2nd Reviewer: [Signature]

METHOD: GC 1,2-Dibromomethane & 1,2-Dibromo-3-chloropropane (EPA Method 504.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/26/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	
VII.	Laboratory control samples	SW	LCS 1b
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	TB = 2 EB = EB-SH-04 040711 (280-14379-1) EB = FB-041411-19 (280-14655-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: WATER

1	PZ-035_042611_01	11	MB 280-65060/A-A	21	31
2	TB PZ-035_042611	12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 26, 2011

LDC Report Date: June 3, 2011

Matrix: Water

Parameters: Organophosphorus Pesticides

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15069-1

Sample Identification

PZ-035_042611_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8141A for Organophosphorus Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No organophosphorus pesticide contaminants were found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No organophosphorus pesticide contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a trip blank. No organophosphorus pesticide contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Column	Surrogate	%R (Limits)	Compound	Flag	A or P
PZ-035_042611_01	Col 1	Chlormefos	47 (49-171)	All TCL compounds	J (all detects) UJ (all non-detects)	P

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15069-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Data Qualification Summary - SDG 280-15069-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15069-1	PZ-035_042611_01	All TCL compounds	J (all detects) UJ (all non-detects)	P	Surrogate recovery (%R) (S)
280-15069-1	PZ-035_042611_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Laboratory Blank Data Qualification Summary - SDG
280-15069-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Field Blank Data Qualification Summary - SDG 280-
15069-1**

No Sample Data Qualified in this SDG

LDC #: 25528A17

VALIDATION COMPLETENESS WORKSHEET

Date: 6/2/11

SDG #: 280-15069-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JG
2nd Reviewer: [Signature]

METHOD: GC Organophosphorus Pesticides (EPA SW 846 Method 8141A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/26/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	SW	
VI.	Matrix spike/Matrix spike duplicates	N	Client spec
VII.	Laboratory control samples	A	LCS 1/2
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	FB = FB_041411_19 (280-14855-1) EB = EB_SH-04_040711 (280-14379-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	PZ-035_042611_01	11	MB 280-64720/1-A	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

LDC #: 25528717

VALIDATION FINDINGS WORKSHEET

Surrogate Recovery

Page: 1 of 1
Reviewer: GYG
2nd Reviewer: [Signature]

METHOD: GC HPLC

Are surrogates required by the method? Yes or No

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were surrogates spiked into all samples and blanks?

Y N N/A Did all surrogate recoveries (%R) meet the QC limits?

#	Sample ID	Detector/Column	Surrogate Compound	%R (Limits)	Qualifications
		GC. 1	DD	47 (49-171)	J / MS / P (5)
				()	
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Surrogate Compound	Surrogate Compound	Surrogate Compound	Surrogate Compound	Surrogate Compound
A Chlorobenzene (CBZ)	G Octacosane	M Benzofluoranthene	S 1-Chloro-3-Nitrobenzene	Y Tetrachloro-m- Xylene
B 4-Bromofluorobenzene (BFB)	H Ortho-Terphenyl	N Terphenyl-D14	T 3,4-Dinitrotoluene	Z 2-Bromonaphthalene
C a.a.-Trifluorotoluene	I Fluorobenzene (FBZ)	O Decachlorobiphenyl (DCB)	U Triphenyltin	AA 1-Chlorooctadecane
D Bromochlorobenzene	J n-Triacontane	P 1-methylnaphthalene	V Tri-n-propyltin	BB 2,4-DCPAA
E 1,4-Dichlorobutane	K Hexacosane	Q Dichlorophenyl Acetic Acid (DCAA)	W Tributyl Phosphate	CC 2,5-Dibromotoluene
F 1,4-Difluorobenzene (DFB)	L Bromobenzene	R 4-Nitrophenol	X Triphenyl Phosphate	DD Chloroform

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 26, 2011

LDC Report Date: June 3, 2011

Matrix: Water

Parameters: Hexachlorophene

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15069-1

Sample Identification

PZ-035_042611_01

PZ-035_042611_01MS

PZ-035_042611_01MSD

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8321A for Hexachlorophene.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No hexachlorophene was found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No hexachlorophene was found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No hexachlorophene was found in this blank.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
PZ-035_042611_01MS/MSD (PZ-035_042611_01)	Hexachlorophene	48 (50-150)	-	-	J (all detects) UJ (all non-detects)	A

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15069-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Data Qualification Summary - SDG 280-15069-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15069-1	PZ-035_042611_01	Hexachlorophene	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
280-15069-1	PZ-035_042611_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Laboratory Blank Data Qualification Summary - SDG 280-15069-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Field Blank Data Qualification Summary - SDG 280-15069-1**

No Sample Data Qualified in this SDG

LDC #: 25528A44

VALIDATION COMPLETENESS WORKSHEET

Date: 6/02/11

SDG #: 280-15069-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: *[Signature]*
2nd Reviewer: *[Signature]*

METHOD: LC/MS Hexachlorophene (EPA SW 846 Method 8321A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/26/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	FB = FB-041411-19 (280-14655-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinstate
FB = Field blank

EB = EB-SH-04-040711 (280-14379-1)
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	PZ-035_042611_01	11	MB 280-64548/10	21		31	
2	PZ-035_042611_01MS	12		22		32	
3	PZ-035_042611_01MSD	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 26, 2011

LDC Report Date: June 3, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15069-1/A1D270448

Sample Identification

RD-55A_042611_01
RD-55B_042611_01
PZ-139_042611_01
EB_PZ-139_042611
ES-26_042611_01
ES-26_042611_36
PZ-035_042611_01
RD-55A_042611_01MS
RD-55A_042611_01MSD

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

Samples EB_PZ-139_042611 and EB_SH-04_040711 (from SDG 280-14379-1) were identified as equipment blanks. No formaldehyde was found in these blanks.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No formaldehyde was found in this blank.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15069-1/A1D270448	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples ES-26_042611_01 and ES-26_042611_36 were identified as field duplicates. No formaldehyde was detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Data Qualification Summary - SDG 280-15069-1/A1D270448**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15011-1/ A1D260505	RD-55A_042611_01 RD-55B_042611_01 PZ-139_042611_01 EB_PZ-139_042611 ES-26_042611_01 ES-26_042611_36 PZ-035_042611_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-15069-1/A1D270448**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Field Blank Data Qualification Summary - SDG 280-15069-1/A1D270448**

No Sample Data Qualified in this SDG

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/26/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	A	
VII.	Laboratory control samples	A	LCS
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	ND	D = 5, 6
XIII.	Field blanks	ND	EB = 4, EB-SH-04-040711 (280-14379-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinstate
FB = Field blank

FB = FB-041411-19 (280-14655-1)
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1 [†]	RD-55A_042611_01	11	1118033-BLK	21	31
2 [†]	RD-55B_042611_01	12		22	32
3	PZ-139_042611_01	13		23	33
4	EB_PZ-139_042611	14			34
5	ES-26_042611_01	15		25	35
6	ES-26_042611_36	16		26	36
7 [†]	PZ-035_042611_01	17		27	37
8	RD-55A_042611_01MS	18		28	38
9	RD-55A_042611_01MSD	19		29	39
10		20		30	40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 26, 2011

LDC Report Date: June 3, 2011

Matrix: Water

Parameters: Hydrazines

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15069-1

Sample Identification

RD-55A_042611_01
RD-55B_042611_01
ES-26_042611_01
ES-26_042611_36
PZ-035_042611_01
RD-55B_042611_01MS
RD-55B_042611_01MSD

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DVWC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazine contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound	Concentration	Associated Samples
MB 280-64977/25	4/29/11	1,1-Dimethylhydrazine Hydrazine Monomethyl hydrazine	2.80 ug/L 0.800 ug/L 1.07 ug/L	All samples in SDG 280-15069-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No hydrazine contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No hydrazine contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15069-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples ES-26_042611_01 and ES-26_042611_36 were identified as field duplicates. No hydrazine was detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-15069-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15069-1	RD-55A_042611_01 RD-55B_042611_01 ES-26_042611_01 ES-26_042611_36 PZ-035_042611_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-15069-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-15069-1**

No Sample Data Qualified in this SDG

LDC #: 25528A76

VALIDATION COMPLETENESS WORKSHEET

Date: 6/02/11

SDG #: 280-15069-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: ML

2nd Reviewer: C

METHOD: HPLC Hydrazines (Method DVWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/26/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	SW	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	A	
VII.	Laboratory control samples	A	LCS 1/D
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	ND	D = 3.4
XIII.	Field blanks	ND	FB = FB-041411-19 (280-14655-1) EB = EB-57-04-040711 (280-14374-1)

Note: A = Acceptable
N = Not provided/applicable
SW = Sea worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

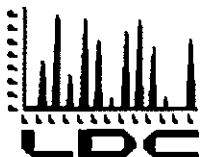
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	RD-55A_042611_01	11	MB 280-64977/25	21		31
2	RD-55B_042611_01	12		22		32
3	ES-26_042611_01	13		23		33
4	ES-26_042611_36	14		24		34
5	PZ-035_042611_01	15		25		35
6	RD-55B_042611_01MS	16		26		36
7	RD-55B_042611_01MSD	17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

Notes: _____



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

June 16, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

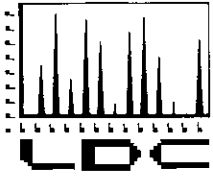
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 24, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25528:

<u>SDG #</u>	<u>Fraction</u>
280-15069-1/IUD2837/ A1D270448 280-15126-1/IUD2827/ A1D280509 280-15184-1/IUD2933/ A1D290602 280-15257-1/IUE0199/ A1D300419	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Pentachlorophenol, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane, Organophosphorus Pesticides, Hexachlorophene, Formaldehyde, Hydrazine
280-15257-2	N-Nitrosodimethylamine
IUD2042	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Hexachlorophene, Herbicides, Wet Chemistry TPH as Extractables, 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane, Organophosphorus Pesticides, Dioxins/Dibenzofurans, Formaldehyde, Hydrazine, Perchlorate
IUD2221	Volatiles, 1,4-Dioxane, Semivolatiles, N-Nitrosodimethylamine, Polychlorinated Biphenyls, Dissolved Metals, Wet Chemistry, TPH as Extractables, Dioxins/Dibenzofurans, Formaldehyde, Hydrazine

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009



- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 27, 2011

LDC Report Date: June 6, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15126-1

Sample Identification

RS-34_042711_01
TB_RS-34_042711
PZ-060_042711_01
TB_PZ-060_042711
HAR-32_042711_01
TB_HAR-32_042711

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-66615/6	5/9/11	Trichloroethene	0.537 ug/L	RS-34_042711_01 TB_RS-34_042711 PZ-060_042711_01 TB_PZ-060_042711 TB_HAR-32_042711

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
TB_RS-34_042711	Trichloroethene	0.46 ug/L	1.0U ug/L
PZ-060_042711_01	Trichloroethene	0.69 ug/L	1.0U ug/L
TB_PZ-060_042711	Trichloroethene	0.43 ug/L	1.0U ug/L
TB_HAR-32_042711	Trichloroethene	0.41 ug/L	1.0U ug/L

Samples TB_RS-34_042711, TB_PZ-060_042711, and TB_HAR-32_042711 were identified as trip blanks. No volatile contaminants were found in these blanks with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
TB_RS-34_042711	4/27/11	Trichloroethene	0.46 ug/L	RS-34_042711_01
TB_PZ-060_042711	4/27/10	Acetone Trichloroethene	2.9 ug/L 0.43 ug/L	PZ-060_042711_01
TB_HAR-32_042711	4/27/11	Trichloroethene	0.41 ug/L	HAR-32_042711_01

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No volatile contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No volatile contaminants were found in this blank.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-060_042711_01	Trichloroethene	0.69 ug/L	1.0U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
RS-34_042711_01	Toluene-d8	112 (88-110)	Acrolein Acrylonitrile	J (all detects) J (all detects)	A
TB_RS-34_042711	Toluene-d8	113 (88-110)	Acrolein Acrylonitrile	J (all detects) J (all detects)	A
PZ-060_042711_01	Toluene-d8	112 (88-110)	Acrolein Acrylonitrile	J (all detects) J (all detects)	A
TB_PZ-060_042711	Toluene-d8	113 (88-110)	Acrolein Acrylonitrile	J (all detects) J (all detects)	A

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
HAR-32_042711_01	Toluene-d8	114 (88-110)	Acrolein Acrylonitrile	J (all detects) J (all detects)	A
HAR-32_042711_01	Bromofluorobenzene	80 (86-115)	Trichloroethene 1,1,2-Trichloro-1,2,2-trifluoroethane	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A
TB_HAR-32_042711	Toluene-d8	113 (88-110)	Acrolein Acrylonitrile	J (all detects) J (all detects)	A
MB 280-64831/5	Toluene-d8	115 (88-110)	Acrolein Acrylonitrile	J (all detects) J (all detects)	P

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D 280-66615/5,13 (All samples in SDG 280-15126-1)	Carbon tetrachloride Dibromochloromethane Methylene chloride	78 (80-120) - 59 (60-134)	79 (80-120) 75 (76-120) 59 (60-134)	- - -	J (all detects) UJ (all non-detects)	P

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15126-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-15126-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15126-1	RS-34_042711_01 TB_RS-34_042711 PZ-060_042711_01 TB_PZ-060_042711 HAR-32_042711_01 TB_HAR-32_042711	Acrolein Acrylonitrile	J (all detects) J (all detects)	A	Surrogate spikes (%R) (S)
280-15126-1	HAR-32_042711_01	Trichloroethene 1,1,2-Trichloro-1,2,2-trifluoroethane	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A	Surrogate spikes (%R) (S)
280-15126-1	RS-34_042711_01 TB_RS-34_042711 PZ-060_042711_01 TB_PZ-060_042711 HAR-32_042711_01 TB_HAR-32_042711	Carbon tetrachloride Dibromochloromethane Methylene chloride	J (all detects) UJ (all non-detects)	P	Laboratory control samples (%R) (L)
280-15126-1	RS-34_042711_01 TB_RS-34_042711 PZ-060_042711_01 TB_PZ-060_042711 HAR-32_042711_01 TB_HAR-32_042711	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-15126-1**

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-15126-1	TB_RS-34_042711	Trichloroethene	1.0U ug/L	A	B
280-15126-1	PZ-060_042711_01	Trichloroethene	1.0U ug/L	A	B
280-15126-1	TB_PZ-060_042711	Trichloroethene	1.0U ug/L	A	B
280-15126-1	TB_HAR-32_042711	Trichloroethene	1.0U ug/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-15126-1**

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-15126-1	PZ-060_042711_01	Trichloroethene	1.0U ug/L	A	T

LDC #: 25528B1a

VALIDATION COMPLETENESS WORKSHEET

Date: 6/07/11

SDG #: 280-15126-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: ML
2nd Reviewer: Q

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/27/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	SW	LCS / D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	TB = 2, 4, 6 * FB = FB_041411_19 (280-14655-1) *EB = EB_SH-04-040711 (280-14374-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

* ND = No compounds detected
R = Rinseate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	RS-34_042711_01	11	MB 280-64821/5 (APPX 6666)	21		31
2	TB_RS-34_042711	12	MB 280-66615/6	22		32
3	PZ-060_042711_01	13	MB 280-66922/5 (S, TTT)	23		33
4	TB_PZ-060_042711	14		24		34
5	HAR-32_042711_01	15		25		35
6	TB_HAR-32_042711	16		26		36
7		17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

VOCs, IPA, APPIX, A, A = 1, 2, 5, 6
APPIX+A, A = 3, 4

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC. 1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl chloride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

Surrogate Spikes

Reviewer: PC

2nd Reviewer: PC

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N/A Were all surrogate %R within QC limits?

Y N/A If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R out of outside of criteria? (S)

#	Date	Sample ID	Surrogate	%Recovery (Limits)	Qualifications
1			TOL	112 (88-110)	J dets/A (qual FFFF, GGGG) (S)
2			TOL	113 ()	
3			TOL	112 ()	
4			TOL	113 ()	
5			TOL	114 ()	
5			BFB	80 (86-115)	J/M/A (qual S, TTT)
6			TOL	113 (88-110)	J dets/A (qual FFFF, GGGG)
		MB 280-648 71/5	TOL	115 ()	J dets/P
				()	
				()	
				()	
				()	
				()	
				()	
				()	

- SMC1 (TOL) = Toluene-d8
 - SMC2 (BFB) = Bromofluorobenzene
 - SMC3 (DCE) = 1,2-Dichloroethane-d4
 - SMC4 (DFM) = Dibromofluoromethane
- QC Limits (Soil)
- 85-115
 - 85-120
 - 60-120
 - 75-125
- QC Limits (Water)
- 85-120
 - 75-120
 - 70-120
 - 85-115

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 27, 2011
LDC Report Date: June 6, 2011
Matrix: Water
Parameters: 1,4-Dioxane
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-15126-1

Sample Identification

RS-34_042711_1
TB_RS-34_042711
PZ-060_042711_01
TB_PZ-060_042711
HAR-32_042711_01
TB_HAR-32_042711

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-dioxane was found in the method blanks.

Samples TB_RS-34_042711, TB_PZ-060_042711, and TB_HAR-32_042711 were identified as trip blanks. No 1,4-dioxane was found in these blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No 1,4-dioxane was found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No 1,4-dioxane was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG280-15126-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 1,4-Dioxane - Data Qualification Summary - SDG 280-15126-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15126-1	RS-34_042711_1 TB_RS-34_042711 PZ-060_042711_01 TB_PZ-060_042711 HAR-32_042711_01 TB_HAR-32_042711	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-15126-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-15126-1**

No Sample Data Qualified in this SDG

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/27/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS / D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 2 4 6 FB = FB_041411-19 (280-1465-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

FB = EB_5H-04-040711 (280-14379-1)

Validated Samples:

Water

1	RS-34_042711_1	11	MB 280-66254/12	21		31	
2	TB_RS-34_042711	12		22		32	
3	PZ-060_042711_01	13		23		33	
4	TB_PZ-060_042711	14		24		34	
5	HAR-32_042711_01	15		25		35	
6	TB_HAR-32_042711	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 27, 2011

LDC Report Date: June 6, 2011

Matrix: Water

Parameters: 1,2,3-Trichloropropane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15126-1/IUD2827

Sample Identification

RS-34_042711_1
TB_RS-34_042711
PZ-060_042711_01
TB_PZ-060_042711
HAR-32_042711_01
TB_HAR-32_042711
RS-34_042711_1DUP

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-Trichloropropane was found in the method blanks.

Samples TB_RS-34_042711, TB_PZ-060_042711, and TB_HAR-32_042711 were identified as trip blanks. No 1,2,3-Trichloropropane was found in these blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No 1,2,3-Trichloropropane was found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No 1,2,3-Trichloropropane was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15126-1/IUD2827	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011

1,2,3-Trichloropropane - Data Qualification Summary - SDG 280-15126-1/IUD2827

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15126-1/ IUD2827	RS-34_042711_1 TB_RS-34_042711 PZ-060_042711_01 TB_PZ-060_042711 HAR-32_042711_01 TB_HAR-32_042711	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011

1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG 280-15126-1/IUD2827

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011

1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG 280-15126-1/IUD2827

No Sample Data Qualified in this SDG

METHOD: GC/MS 1,2,3-Trichloropropane (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/27/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates <i>Lab Dup</i>	N/A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 2, 4, 6 FB = FB_041411_19 (280-1465-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

EB = EB_54-04_040711 (280-14379-1)

Validated Samples:

Water

1	RS-34_042711_1	11	11E0231- Blk1	21	31
2	TB_RS-34_042711	12		22	32
3	PZ-060_042711_01	13		23	33
4	TB_PZ-060_042711	14		24	34
5	HAR-32_042711_01	15		25	35
6	TB_HAR-32_042711	16		26	36
7	RS-34_042711_1DUP	17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 27, 2011

LDC Report Date: June 6, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15126-1

Sample Identification

RS-34_042711_01
WS-04A_042711_01
PZ-060_042711_01
HAR-32_042711_01

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-64644/1-A	4/28/11	Diethylphthalate	2.94 ug/L	All samples in SDG 280-15126-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
RS-34_042711_01	Diethylphthalate	0.78 ug/L	9.5U ug/L
WS-04A_042711_01	Diethylphthalate	0.73 ug/L	9.6U ug/L
PZ-060_042711_01	Diethylphthalate	1.2 ug/L	10U ug/L
HAR-32_042711_01	Diethylphthalate	0.69 ug/L	10U ug/L

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No semivolatile contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No semivolatile contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15126-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-15126-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15126-1	RS-34_042711_01 WS-04A_042711_01 PZ-060_042711_01 HAR-32_042711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-15126-1**

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-15126-1	RS-34_042711_01	Diethylphthalate	9.5U ug/L	A	B
280-15126-1	WS-04A_042711_01	Diethylphthalate	9.6U ug/L	A	B
280-15126-1	PZ-060_042711_01	Diethylphthalate	10U ug/L	A	B
280-15126-1	HAR-32_042711_01	Diethylphthalate	10U ug/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles- Field Blank Data Qualification Summary - SDG 280-15126-1**

No Sample Data Qualified in this SDG

LDC #: 25528B2a
 SDG #: 280-15126-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 6/27/11
 Page: 1 of 1
 Reviewer: JVG
 2nd Reviewer: [Signature]

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/27/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS 1/2
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	FB = FB_041411_19 (280-14655-1) EB = EB_57-04_040711 (280-14379-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

water

1	RS-34_042711.pl	11	MB 280-64644/1-A	21	31
2	WS-04A_042711_01	12		22	32
3	PZ-060_042711_01	13		23	33
4	HAR-32_042711_01	14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

App IX = 1, 3, 4
 Phthalates + NB = 2

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(e)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU.
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenyl ether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes: * = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

VALIDATION FINDINGS WORKSHEET
Blanks

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- Y N N/A Was a method blank analyzed for each matrix?
- Y N N/A Was a method blank analyzed for each concentration preparation level?
- Y N N/A Was a method blank associated with every sample?
- Y N N/A Was the blank contaminated? If yes, please see qualification below.

Blank extraction date: 4/22/14 Blank analysis date: 5/04/14
Conc. units: ng/L Associated Samples: All Code: B

Compound		Blank ID		Sample Identification		
<u>MB</u>	<u>280-64644</u>	<u>1-A</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
<u>LL</u>	<u>294</u>		<u>0.78</u>	<u>1.2</u>	<u>0.69</u>	<u>10U</u>

Blank extraction date: _____ Blank analysis date: _____
Conc. units: _____ Associated Samples: _____

Compound		Blank ID		Sample Identification		

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 27, 2011

LDC Report Date: June 6, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15126-1

Sample Identification

RS-34_042711_01

PZ-060_042711_01

HAR-32_042711_01

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-nitrosodimethylamine was found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No N-nitrosodimethylamine was found in this blank.

Sample FB_041411_19 (from SDG 14655-1) and FB_RS-34_042711_19 (from SDG 15126-2) were identified as a field blanks. No N-nitrosodimethylamine was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15126-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RS-34_042711_01 and RS-34_042711_36 (from SDG 280-15126-2) were identified as field duplicates. No N-nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	RS-34_042711_01	RS-34_042711_36			
N-nitrosodimethylamine	0.0080	0.0077	4 (≤35)	-	-

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-15126-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15126-1	RS-34_042711_01 PZ-060_042711_01 HAR-32_042711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary – SDG 280-15126-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-15126-1**

No Sample Data Qualified in this SDG

LDC #: 25528B2b
 SDG #: 280-15126-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 6/6/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/27/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS 1b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D = 1 + RS-34_042711_36 (280-15126-2)
XVII.	Field blanks	ND	FB = FB_041411_19 (280-14655-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

EB = EB-SH-04_040711 (280-14379-1)
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank
 FB-RS-34_042711-19 (280-15126-2)

Validated Samples:

Water

1	RS-34_042711_01	11	MB 280-64943/1-A	31	
2	PZ-060_042711_01	12		32	
3	HAR-32_042711_01	13		33	
4		14		34	
5		15		35	
6		16		36	
7		17		37	
8		18		38	
9		19		39	
10		20		40	

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GCMS NDMA (EPA Method 1625M)

- Y N NA Were field duplicate pairs identified in this SDG?
- Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent Only)
	RS-34_042711_01	RS-34_042711_36		
NDMA	0.0080	0.0077	4	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 27, 2011

LDC Report Date: June 6, 2011

Matrix: Water

Parameters: Pentachlorophenol

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15126-1

Sample Identification

RS-34_042711_01
PZ-060_042711_01
HAR-32_042711_01

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Pentachlorophenol.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No pentachlorophenol was found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No pentachlorophenol was found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No pentachlorophenol was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15126-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Data Qualification Summary - SDG 280-15126-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15126-1	RS-34_042711_01 PZ-060_042711_01 HAR-32_042711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Laboratory Blank Data Qualification Summary - SDG 280-15126-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Field Blank Data Qualification Summary - SDG 280-15126-1**

No Sample Data Qualified in this SDG

LDC #: 25528B2d

VALIDATION COMPLETENESS WORKSHEET

Date: 6/27/11

SDG #: 280-15126-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JVL

2nd Reviewer: [Signature]

METHOD: GC/MS Pentachlorophenol (EPA SW846 Method 8270C-2L)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/27/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS / B
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	FB = FB_041411-19 (280-14655-1) EB = EB_5H-04_046711 (280-14379-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinseate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

water

1	RS-34_042711_1	11	MB 280-64657/A-A	21		31	
2	PZ-060_042711_01	12		22		32	
3	HAR-32_042711_01	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 27, 2011

LDC Report Date: June 6, 2011

Matrix: Water

Parameters: Chlorinated Pesticides

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15126-1

Sample Identification

RS-34_042711_01

PZ-060_042711_01

HAR-32_042711_01

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No chlorinated pesticide contaminants were found in this blank.

Sample FB_041411_19 (from SDG 14655-1) was identified as a field blank. No chlorinated pesticide contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Column	Surrogate	%R (Limits)	Compound	Flag	A or P
PZ-060_042711_01	Col 1	Tetrachloro-m-xylene	56 (60-140)	All TCL compounds	J (all detects) UJ (all non-detects)	P
PZ-060_042711_01	Col 2	Tetrachloro-m-xylene	53 (60-140)	All TCL compounds	J (all detects) UJ (all non-detects)	P
MB 280-65235/1-A	Col 1	Tetrachloro-m-xylene	51 (60-140)	All TCL compounds	J (all detects) UJ (all non-detects)	P
MB 280-65235/1-A	Col 2	Tetrachloro-m-xylene	52 (60-140)	All TCL compounds	J (all detects) UJ (all non-detects)	P

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

All target compound identifications were within validation criteria.

XIII. Compound Quantitation and Reported CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15126-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Data Qualification Summary - SDG 280-15126-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15126-1	PZ-060_042711_01	All TCL compounds	J (all detects) UJ (all non-detects)	P	Surrogate spikes (%R) (S)
280-15126-1	RS-34_042711_01 PZ-060_042711_01 HAR-32_042711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 280-15126-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Field Blank Data Qualification Summary - SDG 280-15126-1**

No Sample Data Qualified in this SDG

LDC #: 25528B3a
 SDG #: 280-15126-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 6/27/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/27/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	N	client spec.
VIII.	Laboratory control samples	A	LCS / D
IX.	Regional quality assurance and quality control	N	
X.	Florisil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation and reported CRQLs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates	N	
XVI.	Field blanks	ND	FB = FB_041411_19 (280-14655-1) EB = EB_S14-09_040711 (280-14379-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinstate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	RS-34_042711_01	11	MB 280-64687/A-A	31
2	PZ-060_042711_01	12		32
3	HAR-32_042711_01	13		33
4		14		34
5		15		35
6		16		36
7		17		37
8		18		38
9		19		39
10		20		40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 27, 2011

LDC Report Date: June 6, 2011

Matrix: Water

Parameters: Polychlorinated Biphenyls

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15126-1

Sample Identification

RS-34_042711_01

PZ-060_042711_01

HAR-32_042711_01

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyls were found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No polychlorinated biphenyls were found in this blank.

Sample FB_041411_19 (280-14655-1) was identified as a field blank. No polychlorinated biphenyls were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

Raw data were not reviewed for this SDG.

XIII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG280-15126-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Data Qualification Summary - SDG 280-15126-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15126-1	RS-34_042711_01 PZ-060_042711_01 HAR-32_042711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 280-15126-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG 280-15126-1**

No Sample Data Qualified in this SDG

LDC #: 25528B3b
 SDG #: 280-15126-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 6/03/11
 Page: 1 of 1
 Reviewer: JM
 2nd Reviewer: Q

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>6/27/11</u>
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	<u>Client Spec</u>
VIII.	Laboratory control samples	A	<u>LES 1b</u>
IX.	Regional quality assurance and quality control	N	
X.	Florissil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation and reported CRQLs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates	N	
XVI.	Field blanks	ND	<u>FB = FB_041411_19 (280-14655-1)</u> <u>EB = EB_511-04_040711 (280-14279-1)</u>

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinstate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	RS-34_042711_01	11	<u>MB 280-64884/1-A</u>	21	31
2	PZ-060_042711_01	12		22	32
3	HAR-32_042711_01	13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 27, 2011
LDC Report Date: June 2, 2011
Matrix: Water
Parameters: Metals
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-15126-1

Sample Identification

RS-34_042711_1
PZ-060_042711_01
HAR-32_042711_01
RS-34_042711_1F
PZ-060_042711_01F
HAR-32_042711_01F
RS-34_042711_1MS
RS-34_042711_1MSD
HAR-32_042711_01FMS
HAR-32_042711_01FMMSD

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 10 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B, 6020, and 7000 for Metals. The metals analyzed were Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No metal contaminants were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Cobalt Copper Tin	0.0000195 mg/L 0.00194 mg/L 0.000891 mg/L	All dissolved metal samples in SDG 280-15126-1

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
RS-34_042711_1F	Copper Tin	0.0012 mg/L 0.00061 mg/L	0.0012U mg/L 0.00061U mg/L
PZ-060_042711_01F	Tin	0.00098 mg/L	0.00098U mg/L
HAR-32_042711_01F	Copper	0.00061 mg/L	0.00061U mg/L

Samples EB_SH-04_040711 and EB_SH-04-040711F (both from SDG 280-14379-1) were identified as equipment blanks. No metal contaminants were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_SH-04_040711	4/7/11	Tin Mercury	0.00028 mg/L 0.000037 mg/L	PZ-060_042711_01
EB_SH-04_040711F	4/7/11	Silver Tin Mercury	0.000018 mg/L 0.000030 mg/L 0.000034 mg/L	PZ-060_042711_01F

Samples FB_041411_19 and FB_041411_19F (both from SDG 280-14655-1) were identified as a field blanks. No metal contaminants were found in these blanks with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_041411_19F	4/14/11	Tin	0.00017 mg/L	PZ-060_042711_01F

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
PZ-060_042711_01F	Tin	0.00098 mg/L	0.00098U mg/L

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Analyte	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS (RS-34_042711_1 PZ-060_042711_01 HAR-32_042711_01)	Mercury	88 (90-115)	-	-	J (all detects) UJ (all non-detects)	P

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution data were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-15126-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Data Qualification Summary - SDG 280-15126-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-15126-1	RS-34_042711_1 PZ-060_042711_01 HAR-32_042711_01	Mercury	J (all detects) UJ (all non-detects)	P	Laboratory control samples (%R) (L)
280-15126-1	RS-34_042711_1 PZ-060_042711_01 HAR-32_042711_01 RS-34_042711_1F PZ-060_042711_01F HAR-32_042711_01F	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Laboratory Blank Data Qualification Summary - SDG 280-15126-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-15126-1	RS-34_042711_1F	Copper Tin	0.0012U mg/L 0.00061U mg/L	A	B
280-15126-1	PZ-060_042711_01F	Tin	0.00098U mg/L	A	B
280-15126-1	HAR-32_042711_01F	Copper	0.00061U mg/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Field Blank Data Qualification Summary - SDG 280-15126-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-15126-1	PZ-060_042711_01F	Tin	0.00098 mg/L	A	F

LDC #: 25528B4

VALIDATION COMPLETENESS WORKSHEET

Date: 5-31-11

SDG #: 280-15126-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: MG

2nd Reviewer: ✓

METHOD: Metals (EPA SW 846 Method 8010B/6020/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4-27-11
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	A	MS/MSD
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	SW	LCS/LCSD
IX.	Internal Standard (ICP-MS)	N	not reviewed
X.	Furnace Atomic Absorption QC	N	not utilized
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	FB = FB-041411-19* } SDG: 280-14655-1
XIV.	Field Duplicates	N	FB = FB-041411-19F
XV.	Field Blanks	SW	EB = EB-SH-04-040711 } SDG: 280-14379-1 EB = EB-SH-04-040711F

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

* = ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

all water

1	RS-34_042711_1	11		21		31	
2	PZ-060_042711_01	12		22		32	
3	HAR-32_042711_01	13		23		33	
4	RS-34_042711_1F	14		24		34	
6	PZ-060_042711_01F	15		25		35	
6	HAR-32_042711_01F	16		26		36	
7	RS-34_042711_1MS	17		27		37	
8	RS-34_042711_1MSD	18		28		38	
9	HAR-32_042711_01FMS	19	1 PBW1	29		39	
10	HAR-32_042711_01FMSD	20	2 PBW2	30		40	

Notes: Samples appended with "F" were analyzed for dissolved metals

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L

Associated Samples: all dissolved Qual: U (B)

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	4	5	6						
Co		0.0000195		0.0000975									
Cu		0.00194		0.0097	0.0012		0.00061						
Sn		0.000891		0.004455	0.00061	0.00098							

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note: a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

N/A Were field blanks identified in this SDG?
 N/A Were target analytes detected in the field blanks?

Blank units: mg/L Associated sample units: mg/L

Sampling date: 4/7/11 Soil factor applied: NA

Field blank type: (circle one) Field Blank / Rinsate / Other: Other EB Associated Samples: 2 (ND)

Analyte	Blank ID	Action Level	No Qual's	Sample Identification		
	EB_SH-04_040711					
Sn	0.00028	0.0014				
Hg	0.000037	0.000185				

Blank units: mg/L Associated sample units: mg/L

Sampling date: 4/7/11 Soil factor applied: NA Qual: U (F)

Field blank type: (circle one) Field Blank / Rinsate / Other: Other EB Associated Samples: 5

Analyte	Blank ID	Action Level	No Qual's	Sample Identification		
	EB_SH-04_040711F		5			
Ag	0.000018	0.00009				
Sn	0.00030	0.0015	0.00098			
Hg	0.000034	0.00017				

Blank units: mg/L Associated sample units: mg/L

Sampling date: 4/14/11 Soil factor applied: NA

Field blank type: (circle one) Field Blank / Rinsate / Other: Field Blank Associated Samples: 5 (>5x; Not analyzed for Fe, Mn, Na)

Analyte	Blank ID	Action Level	No Qual's	Sample Identification		
	FB_041411_19F					
Fe	0.082	0.41				
Mn	0.0012	0.006				
Na	0.29	1.45				
Sn	0.00017	0.00085				

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:

Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 27, 2011

LDC Report Date: June 6, 2011

Matrix: Water

Parameters: Herbicides

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15126-1

Sample Identification

RS-34_042711_01

PZ-060_042711_01

HAR-32_042711_01

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8151A for Herbicides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No herbicide contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
MB 280-65283/1-A	5/3/11	2,4-D	0.372 ug/L	All samples in SDG

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No herbicide contaminants were found in this blank.

Sample FB_041411_19 (from SDG 14655-1) was identified as a field blank. No herbicide contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/(Matrix Spike) Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15126-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Data Qualification Summary - SDG 280-15126-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15126-1	RS-34_042711_01 PZ-060_042711_01 HAR-32_042711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Laboratory Blank Data Qualification Summary - SDG 280-15126-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Field Blank Data Qualification Summary - SDG 280-15126-1**

No Sample Data Qualified in this SDG

LDC #: 25528B5

VALIDATION COMPLETENESS WORKSHEET

Date: 6/03/11

SDG #: 280-15126-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JVL
2nd Reviewer: [Signature]

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/27/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	SW	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	ics 1b
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	FB = FB_041411_19 (280-14655-1) EB = EB_041411_040711 (280-14379-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

water

1	RS-34_042711_01	11	MB 280-65283 / A	21	31
2	PZ-060_042711_01	12		22	32
3	HAR-32_042711_01	13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 27, 2011

LDC Report Date: June 2, 2011

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15126-1

Sample Identification

RS-34_042711_1

PZ-060_042711_01

HAR-32_042711_01

RS-34_042711_1MS

RS-34_042711_1MSD

RS-34_042711_1DUP

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Standard Method 2320B for Alkalinity, EPA Method 350.1 for Ammonia as Nitrogen, EPA Method 300.0 for Chloride, Fluoride, Nitrate, and Sulfate, Standard Method 2510B for Conductivity, EPA SW 846 Method 9012A for Cyanide, EPA Method 314.0 for Perchlorate, EPA SW 846 Method 9040B for pH, Standard Method 4500-S2 D for Sulfide, Standard Method 2540C for Total Dissolved Solids, and EPA Method 180.1 for Turbidity.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
RS-34_042711_1	pH	51.00 hours	48 hours	J (all detects) UJ (all non-detects)	P
PZ-060_042711_01	pH	51.25 hours	48 hours	J (all detects) UJ (all non-detects)	P
HAR-32_042711_01	pH	50.75 hours	48 hours	J (all detects) UJ (all non-detects)	P

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
PB (prep blank)	Ammonia as N Cyanide	0.0685 mg/L 0.00323 mg/L	All samples in SDG 280-15126-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
RS-34_042711_1	Ammonia as N Cyanide	0.071 mg/L 0.0038 mg/L	0.071U mg/L 0.0038U mg/L
PZ-060_042711_01	Ammonia as N Cyanide	0.30 mg/L 0.0035 mg/L	0.30U mg/L 0.0035U mg/L
HAR-32_042711_01	Ammonia as N Cyanide	0.083 mg/L 0.0047 mg/L	0.083U mg/L 0.0047U mg/L

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No contaminant concentrations were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_SH-04_040711	4/7/11	Fluoride Nitrate as N Ammonia as N Cyanide pH	0.11 mg/L 0.19 mg/L 0.091 mg/L 0.0020 mg/L 5.83 pH units	PZ-060_042711_01

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No contaminant concentrations were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_041411_19	4/14/11	pH	5.81 pH units	PZ-060_042711_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
PZ-060_042711_01	Ammonia as N Cyanide	0.30 mg/L 0.0035 mg/L	0.30U mg/L 0.0035U mg/L

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-15126-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-15126-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-15126-1	RS-34_042711_1 PZ-060_042711_01 HAR-32_042711_01	pH	J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-15126-1	RS-34_042711_1 PZ-060_042711_01 HAR-32_042711_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-15126-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-15126-1	RS-34_042711_1	Ammonia as N Cyanide	0.071 mg/L 0.0038 mg/L	A	B
280-15126-1	PZ-060_042711_01	Ammonia as N Cyanide	0.30 mg/L 0.0035 mg/L	A	B
280-15126-1	HAR-32_042711_01	Ammonia as N Cyanide	0.083 mg/L 0.0047 mg/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-15126-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-15126-1	PZ-060_042711_01	Ammonia as N Cyanide	0.30U mg/L 0.0035U mg/L	A	F

LDC #: 25528B6

VALIDATION COMPLETENESS WORKSHEET

Date: 5-31-11

SDG #: 280-15126-1

Level V

Page: 1 of 1

Laboratory: Test America Inc.

Reviewer: MG

2nd Reviewer: W

METHOD: (Analyte) Alkalinity (SM2320B), Ammonia-N (EPA Method 350.1), Chloride, Fluoride, Nitrate, Sulfate (EPA Method 300.0), Conductivity (SM2510B), Cyanide (EPA SW846 Method 9012A), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B), Sulfide (SM4500-S2 D), TDS (SM2540C), Turbidity (EPA Method 180.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: 4-27-11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	SW	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/MSD
V	Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS/LCSD
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X	Field blanks	SW	FB = FB_041411-19 (SDG: 280-14655-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

EB = EB_SH-04_040711 (SDG: 280-14379-1)
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

all water

1	RS-34_042711_1	11		21		31	
2	PZ-060_042711_01	12		22		32	
3	HAR-32_042711_01	13		23		33	
4	RS-34_042711_1MS	14		24		34	
5	RS-34_042711_1MSD	15		25		35	
6	RS-34_042711_1DUP	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20	PBW	30		40	

Notes: _____

VALIDATION FINDINGS WORKSHEET
Blanks

METHOD: Inorganics, Method See Cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were blank analyses performed as required? If no, please see qualifications below.

Y N N/A Were any activities in the blanks greater than the minimum detectable activity? If yes, please see qualifications below.

Conc. units: <u>mg/L</u>		Associated Samples: <u>all</u>			Qual: <u>U (B)</u>	
Analyte	Blank ID	Blank ID	Blank Action Limit	1	2	3
	PB	ICB/CCB (mg/L)				
NH3-N	0.0685		0.3425	0.071	0.30	0.083
CN	0.00323		0.01615	0.0038	0.0035	0.0047

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 All contaminants within five times the method blank concentration were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET

Field Blanks

METHOD: Inorganics, EPA Method See Cover
 Y N N/A Were field blanks identified in this SDG?
 Y N N/A Were target analytes detected in the field blanks?
Blank units: mg/L Associated sample units: mg/L
Sampling date: 4/17/11 Soil factor applied: NA
Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: 2 Qual: U (F)

Analyte	Blank ID	Action Limit	Sample Identification
	EB SH-04 040711		2
F	0.11	0.55	
NO3	0.19	0.95	
NH3-N	0.091	0.455	0.30
CN	0.0020	0.01	0.0035
pH (pH units)	5.83		

Blank units: pH units Associated sample units: pH units
Sampling date: 4/14/11 Soil factor applied: NA
Field blank type: (circle one) Field Blank / Rinsate / Other:

Analyte	Blank ID	Action Limit	Sample Identification
	FB 041411_19		No Qual's.
pH	5.81		

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 27, 2011

LDC Report Date: June 6, 2011

Matrix: Water

Parameters: Diesel Range Organics

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15126-1

Sample Identification

RS-34_042711_01
WS-04A_042711_01
PZ-060_042711_01

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Diesel Range Organics.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No diesel range organic contaminants were found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No diesel range organic contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No diesel range organic contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15126-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Data Qualification Summary - SDG 280-15126-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15126-1	RS-34_042711_01 WS-04A_042711_01 PZ-060_042711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Laboratory Blank Data Qualification Summary - SDG 280-15126-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Field Blank Data Qualification Summary - SDG 280-15126-1**

No Sample Data Qualified in this SDG

LDC #: 25528B8
 SDG #: 280-15126-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

8015 B

Date: 6/03/11
 Page: 1 of 1
 Reviewer: JVG
 2nd Reviewer: [Signature]

METHOD: GC Diesel Range Organics (Oklahoma Department of Environmental Quality)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/27/11</u>
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	<u>client spec</u>
VII.	Laboratory control samples	A	<u>LCS 1b</u>
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	FB = <u>FB_041411_19 (280-14655-1)</u> EB = <u>EB_SH-09-040711 (280-14379-1)</u>

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinseate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

1	RS-34_042711_01	11	MB 280-64894/1-A	21	31
2	WS-04A_042711_01	12		22	32
3	PZ-060_042711_01	13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 27, 2011
LDC Report Date: June 6, 2011
Matrix: Water
Parameters: 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-15126-1

Sample Identification

RS-34_042711_01
TB_RS-34_042711
PZ-060_042711_01
TB_PZ-060_042711
HAR-32_042711_01
TB_HAR-32_042711

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 504.1 for 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in the method blanks.

Samples TB_RS-34_042711, TB_PZ-060_042711, and TB_HAR-32_042711 were identified as trip blanks. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in these blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D 280-65060/1,2-A (RS-34_042711_01 TB_RS-34_042711 PZ-060_042711_01 MB 280-65060/4-A)	1,2-Dibromoethane	-	66 (70-130)	-	J (all detects) UJ (all non-detects)	P

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG280-15126-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Data Qualification Summary -
 SDG 280-15126-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15126-1	RS-34_042711_01 TB_RS-34_042711 PZ-060_042711_01	1,2-Dibromoethane	J (all detects) UJ (all non-detects)	P	Laboratory control samples (%R) (L)
280-15126-1	RS-34_042711_01 TB_RS-34_042711 PZ-060_042711_01 TB_PZ-060_042711 HAR-32_042711_01 TB_HAR-32_042711	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Laboratory Blank Data Qualification Summary - SDG 280-15126-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Field Blank Data Qualification Summary - SDG 280-15126-1**

No Sample Data Qualified in this SDG

LDC #: 25528B10

VALIDATION COMPLETENESS WORKSHEET

Date: 6/03/11

SDG #: 280-15126-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JVB

2nd Reviewer: [Signature]

METHOD: GC 1,2-Dibromomethane & 1,2-Dibromo-3-chloropropane (EPA Method 504.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/27/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec.
VII.	Laboratory control samples	SW	LCS 1b
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	TB = 2, 4, 6 FB = FB-041411-19 (280-14655-1) EB = EB-SH04-040711 (280-14379)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	RS-34_042711_01	11	MB 280-65060/4-A	21	31
2	TB_RS-34_042711	12	MB 280-65061/4-A	22	32
3	PZ-060_042711_01	13		23	33
4	TB_PZ-060_042711	14		24	34
5	HAR-32_042711_01	15		25	35
6	TB_HAR-32_042711	16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 27, 2011

LDC Report Date: June 6, 2011

Matrix: Water

Parameters: Organophosphorus Pesticides

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15126-1

Sample Identification

RS-34_042711_01

PZ-060_042711_01

HAR-32_042711_01

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8141A for Organophosphorus Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No organophosphorus pesticide contaminants were found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No organophosphorus pesticide contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a trip blank. No organophosphorus pesticide contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG280-15126-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Data Qualification Summary - SDG 280-15126-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15126-1	RS-34_042711_01 PZ-060_042711_01 HAR-32_042711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Laboratory Blank Data Qualification Summary - SDG 280-15126-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Field Blank Data Qualification Summary - SDG 280-15126-1**

No Sample Data Qualified in this SDG

LDC #: 25528B17

VALIDATION COMPLETENESS WORKSHEET

Date: 6/27/11

SDG #: 280-15126-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: [Signature]
2nd Reviewer: [Signature]

METHOD: GC Organophosphorus Pesticides (EPA SW 846 Method 8141A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/27/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	A	LCS 1b
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	FB = FB_041111-19 (280-14655-1) EB = EB_S#04_040711 (280-14574-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	RS-34_042711_01	11	MB 280-69720/1-A	21		31	
2	PZ-060_042711_01	12		22		32	
3	HAR-32_042711_01	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 27, 2011

LDC Report Date: June 7, 2011

Matrix: Water

Parameters: Hexachlorophene

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15126-1

Sample Identification

RS-34_042711_01

PZ-060_042711_01

HAR-32_042711_01

RS-34_042711_1MS

RS-34_042711_1MSD

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8321A for Hexachlorophene.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No hexachlorophene was found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No hexachlorophene was found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No hexachlorophene was found in this blank.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG280-15126-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Data Qualification Summary - SDG 280-15126-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15126-1	RS-34_042711_01 PZ-060_042711_01 HAR-32_042711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Laboratory Blank Data Qualification Summary - SDG 280-15126-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Field Blank Data Qualification Summary - SDG 280-15126-1**

No Sample Data Qualified in this SDG

LDC #: 25528B44
 SDG #: 280-15126-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 6/27/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: LC/MS Hexachlorophene (EPA SW 846 Method 8321A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/27/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	FB = FB_041411_19 (280-14655-1) EB = EB_SH-09_040711 (280-14374-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

water

1	RS-34_042711_01	11	MB 280-64548/10	21	31
2	PZ-060_042711_01	12		22	32
3	HAR-32_042711_01	13		23	33
4	RS-34_042711_1MS	14		24	34
5	RS-34_042711_1MSD	15		25	35
6		16			36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 27, 2011
LDC Report Date: June 6, 2011
Matrix: Water
Parameters: Formaldehyde
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-15126-1/A1D280509

Sample Identification

RS-34_042711_1
PZ-060_042711_01
HAR-32_042711_01
RS-34_042711_1MS
RS-34_042711_1MSD

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No formaldehyde was found in this blank.

Sample FB_041411_19 (from SDG 14655-1) was identified as a field blank. No formaldehyde was found in this blank.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15126-1/A1D280509	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Data Qualification Summary - SDG 280-15126-1/A1D280509**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15126-1/ A1D280509	RS-34_042711_01 PZ-060_042711_01 HAR-32_042711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-15126-1/A1D280509**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Field Blank Data Qualification Summary - SDG 280-15126-1/A1D280509**

No Sample Data Qualified in this SDG

LDC #: 25528B71

VALIDATION COMPLETENESS WORKSHEET

Date: 6/07/11

SDG #: 280-15126-1/A1D280509

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JVB

2nd Reviewer: Q

METHOD: HPLC Formaldehyde (EPA SW846 Method 8316)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/27/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	A	
VII.	Laboratory control samples	A	LES
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	FB = FB-041411-19 (280-14655-1) EB = EB-SH-04-040711 (280-14374-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	RS-34_042711_01	11	1119029- BUC	21		31	
2	PZ-060_042711_01	12		22		32	
3	HAR-32_042711_01	13		23		33	
4	RS-34_042711_1MS	14		24		34	
5	RS-34_042711_1MSD	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 27, 2011

LDC Report Date: June 6, 2011

Matrix: Water

Parameters: Hydrazines

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15126-1

Sample Identification

RS-34_042711_01
PZ-060_042711_01
HAR-32_042711_01

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DVWC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazine contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound	Concentration	Associated Samples
MB 280-64977/25	4/29/11	1,1-Dimethylhydrazine	2.80 ug/L	All samples in SDG 280-15126-1
MB 280-64977/25	4/29/11	Hydrazine Monomethyl hydrazine	0.800 ug/L 1.07 ug/L	RS-34_042711_01 HAR-32_042711_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No hydrazine contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No hydrazine contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15126-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-15126-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15126-1	RS-34_042711_01 PZ-060_042711_01 HAR-32_042711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-15126-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-15126-1**

No Sample Data Qualified in this SDG

LDC #: 25528B76

VALIDATION COMPLETENESS WORKSHEET

Date: 6/03/11

SDG #: 280-15126-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: *[Signature]*
2nd Reviewer: *[Signature]*

METHOD: HPLC Hydrazines (Method DVWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/27/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	SW	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	N	Client spec
VII.	Laboratory control samples	A	ICS 10
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	FB = FB-041411-19 (280-14655-1) EB = EB-SH-04-040711 (280-14379-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	RS-34_042711_01	11	MB 280-64977/25	21		31	
2	PZ-060_042711_01	12		22		32	
3	HAR-32_042711_01	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

LDC #: 25528 B76

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Page: 1 of 1
 Reviewer: JG
 2nd reviewer: _____

All circled methods are applicable to each sample.

Sample ID	Matrix	<u>A</u>	<u>B</u>	Parameter <u>C</u>
1, 3	W	Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
2	W	Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine

Comments: _____

Blanks

METHOD: GC HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- Y N N/A
- Y N N/A
- Y N N/A
- Y N N/A

- Were all samples associated with a given method blank?
- Was a method blank performed for each matrix and whenever a sample extraction procedure was performed?
- Was a method blank performed with each extraction batch?
- Were any contaminants found in the method blanks? If yes, please see findings below.

Level I/VD Only

- Y N N/A
- Y N N/A

- (Gasoline and aromatics only) Was a method blank analyzed with each 24 hour batch?
- Was a method blank analyzed for each analytical / extraction batch of ≤20 samples?

Blank extraction date: NA Blank analysis date: 4/24/11
 Conc. units: ug/l

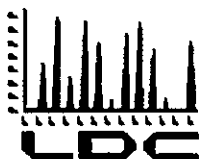
B = A11
 A, C = 1, 3 } (ND)

Compound	Blank ID	Sample Identification
	<u>MB 280-64977/25</u>	
<u>B</u>	<u>2.80</u>	
<u>A</u>	<u>0.800</u>	
<u>C</u>	<u>1.07</u>	

Blank extraction date: Blank analysis date:
 Conc. units: Associated samples:

Compound	Blank ID	Sample Identification

ALL CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 All contaminants within five times the method blank concentration were qualified as not detected, "u".



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

June 16, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

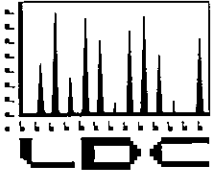
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 24, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25528:

<u>SDG #</u>	<u>Fraction</u>
280-15069-1/IUD2837/ A1D270448 280-15126-1/IUD2827/ A1D280509 280-15184-1/IUD2933/ A1D290602 280-15257-1/IUE0199/ A1D300419	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Pentachlorophenol, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane, Organophosphorus Pesticides, Hexachlorophene, Formaldehyde, Hydrazine
280-15257-2	N-Nitrosodimethylamine
IUD2042	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Hexachlorophene, Herbicides, Wet Chemistry TPH as Extractables, 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane, Organophosphorus Pesticides, Dioxins/Dibenzofurans, Formaldehyde, Hydrazine, Perchlorate
IUD2221	Volatiles, 1,4-Dioxane, Semivolatiles, N-Nitrosodimethylamine, Polychlorinated Biphenyls, Dissolved Metals, Wet Chemistry, TPH as Extractables, Dioxins/Dibenzofurans, Formaldehyde, Hydrazine

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009



- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Pei Geng for'.

Pei Geng
Project Manager/Senior Chemist

Client Select IV LDC #25528 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane (8260B-S)		1,2,3-TCP (524.2)		SVOA (8270C)		SVOA (-SJM)		PCP (8270C-LL)		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (OK-DEQ)		EDB (504.1)		Formaldehyde (8315)		Hexachloro-rophene (8321A)		OPHS Pest. (8141A)		Herbs (8151A)			
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S		
Matrix: Water/Soil																																							
A	280-15069-1/ IUD2837/ A1D270448	05/24/11	06/15/11	11	0	10	0	2	0	7	0	2	0	1	0	7	0	1	0	3	0	3	0	5	0	4	0	2	0	7	0	1	0	1	0	1	0	1	0
B	280-15126-1/ IUD2827/ A1D280509	05/24/11	06/15/11	6	0	6	0	4	0	4	0	-	3	0	3	0	3	0	3	0	3	0	3	0	3	0	3	0	6	0	3	0	3	0	3	0	3	0	
C	280-15184-1/ IUD2933/ A1D290602	05/24/11	06/15/11	9	0	9	0	2	0	6	0	5	0	1	0	6	0	1	0	6	0	6	0	6	0	6	0	2	0	6	0	1	0	1	0	1	0	1	0
D	280-15257-1/ IUE0199/ A1D300419	05/24/11	06/15/11	11	0	11	0	5	0	7	0	4	0	1	0	5	0	1	0	7	0	7	0	7	0	7	0	2	0	3	0	1	0	1	0	1	0	1	0
E	280-15257-2	05/24/11	06/15/11	-	-	-	-	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
F	IUD2042	05/24/11	06/15/11	1	0	1	0	1	0	1	0	-	-	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0
G	IUD2221	05/24/11	06/15/11	1	0	1	0	-	-	1	0	1	0	-	-	1	0	-	-	1	0	-	-	1	0	1	0	-	-	1	0	-	-	-	-	-	-	-	
Total	T/PG			39	0	38	0	16	0	26	0	12	0	6	0	25	0	7	0	21	0	9	0	23	0	22	0	13	0	21	0	7	0	7	0	7	0	7	299

Client Select IV LDC #25528 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	Dioxins (8290)		CLO ₄ (6860)		1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydra-zine (DVWC)		Alk. (2320B)		NH ₃ -N (350.1)		Cl SO ₄ (300.0)		F NO ₃ (300.0)		Br NO ₂ -O-PO ₄		Cr(VI) & Diss. Cr(VI)		CN- (9012A)		Cond. (2510B)		CLO ₄ (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)			
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
Matrix: Water/Soil																																							
A	280-15069-1	05/24/11	06/15/11	-	-	-	-	5	0	5	0	5	0	2	0	5	0	4	0	7	0	2	0	2	0	2	0	1	0	2	0	5	0	5	0	2	0	2	0
B	280-15126-1	05/24/11	06/15/11	-	-	-	-	3	0	2	0	2	0	1	0	3	0	1	0	3	0	-	-	-	-	-	-	3	0	1	0	3	0	3	0	3	0	1	0
C	280-15184-1	05/24/11	06/15/11	-	-	-	-	2	0	2	0	2	0	1	0	2	0	6	0	6	0	5	0	4	0	4	0	1	0	1	0	2	0	2	0	2	0	1	0
D	280-15257-1	05/24/11	06/15/11	-	-	-	-	1	0	-	-	2	0	1	0	1	0	3	0	3	0	2	0	2	0	2	0	1	0	1	0	1	0	1	0	1	0	1	0
F	IUD2042/HAL74/ G1D220529/ 1D22017	05/24/11	06/15/11	1	0	1	0	1	0	1	0	1	0	-	-	1	0	-	-	1	0	-	-	-	-	-	1	0	-	-	1	0	1	0	1	0	-	-	
G	IUD2221/ HAL74/ G1D260546	05/24/11	06/15/11	1	0	-	-	1	0	1	0	1	0	-	-	-	-	1	0	1	0	1	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total	T/PG			2	0	1	0	13	0	11	0	13	0	5	0	12	0	15	0	21	0	10	0	8	0	7	0	5	0	12	0	12	0	12	0	5	0	5	157

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 28, 2011

LDC Report Date: June 6, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15184-1

Sample Identification

RS-13_042811_01
TB_RS-13_042811
PZ-147_042811_01
EB_PZ-147_042811
PZ-148_042811_01
EB_PZ-148_042811
TB_PZ-148_042811
HAR-30_042811_01
TB-HAR-30_042811
RS-13_042811_01MS
RS-13_042811_01MSD

Introduction

This data review covers 11 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Samples TB_RS-13_042811, TB_PZ-148_042811, and TB-HAR-30_042811 were identified as trip blanks. No volatile contaminants were found in these blanks with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
TB_PZ-148_042811	4/28/11	Tetrahydrofuran	2.1 ug/L	PZ-147_042811_01 EB_PZ-147_042811 PZ-148_042811_01 EB_PZ-148_042811
TB-HAR-30_042811	4/28/11	Acetone Isopropyl alcohol/Isopropanol	2.4 ug/L 48 ug/L	HAR-30_042811_01

Samples EB_PZ-147_042811, EB_PZ-148_042811, and EB_SH-04_040711 (from SDG 280-14379-1) were identified as equipment blanks. No volatile contaminants were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-147_042811	4/28/11	Chloroform	0.45 ug/L	PZ-147_042811_01
EB_PZ-148_042811	4/28/11	Chloroform	0.47 ug/L	PZ-148_042811_01

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No volatile contaminants were found in this blank.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
RS-13_042811_01	1,2-Dichloroethane-d4 Bromofluorobenzene	77 (80-120) 85 (86-115)	All TCL compounds except Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects) UJ (all non-detects)	A
RS-13_042811_01	Toluene-d8	117 (88-110)	Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects) J (all detects) J (all detects)	A
TB_RS-13_042811	Toluene-d8	116 (88-110)	Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects) J (all detects) J (all detects)	A
TB_RS-13_042811	Bromofluorobenzene	82 (86-115)	All TCL compounds except Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects) UJ (all non-detects)	A
PZ-147_042811_01	Bromofluorobenzene	84 (86-115)	All TCL compounds except Acrolein Acrylonitrile 2-Chloroethylvinyl ether Trichloroethene	J (all detects) UJ (all non-detects)	A
PZ-147_042811_01	Bromofluorobenzene	84 (86-115)	Trichloroethene	J (all detects) UJ (all non-detects)	A
PZ-147_042811_01	Toluene-d8	117 (88-110)	Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects) J (all detects) J (all detects)	A

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
EB_PZ-147_042811	Bromofluorobenzene	83 (86-115)	All TCL compounds except Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects) UJ (all non-detects)	A
EB_PZ-147_042811	1,2-Dichloroethane-d4 Toluene-d8	121 (80-120) 112 (88-110)	Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects) J (all detects) J (all detects)	A
PZ-148_042811_01	Bromofluorobenzene	84 (86-115)	All TCL compounds except Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects) UJ (all non-detects)	A
PZ-148_042811_01	Toluene-d8	117 (88-110)	Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects) J (all detects) J (all detects)	A
EB_PZ-148_042811	Bromofluorobenzene	83 (86-115)	All TCL compounds except Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects) UJ (all non-detects)	A
EB_PZ-148_042811	1,2-Dichloroethane-d4 Toluene-d8	123 (80-120) 112 (88-110)	Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects) J (all detects) J (all detects)	A
TB_PZ-148_042811	Bromofluorobenzene	82 (86-115)	All TCL compounds except Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects) UJ (all non-detects)	A
TB_PZ-148_042811	1,2-Dichloroethane-d4 Toluene-d8	123 (80-120) 114 (88-110)	Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects) J (all detects) J (all detects)	A
HAR-30_042811_01	Bromofluorobenzene	84 (86-115)	All TCL compounds except Acrolein Acrylonitrile	J (all detects) UJ (all non-detects)	A
HAR-30_042811_01	1,2-Dichloroethane-d4 Toluene-d8	125 (80-120) 113 (88-110)	Acrolein Acrylonitrile	J (all detects) J (all detects)	A
TB-HAR-30_042811	Bromofluorobenzene	83 (86-115)	All TCL compounds except Acrolein Acrylonitrile	J (all detects) UJ (all non-detects)	A
TB-HAR-30_042811	1,2-Dichloroethane-d4 Toluene-d8	124 (80-120) 112 (88-110)	Acrolein Acrylonitrile	J (all detects) J (all detects)	A
MB 280-64954/5	Toluene-d8	114 (88-110)	All TCL compounds	J (all detects)	P
MB 280-67039/6	Bromofluorobenzene	83 (86-115)	All TCL compounds	J (all detects) UJ (all non-detects)	P

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15184-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-15184-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15184-1	RS-13_042811_01 TB_RS-13_042811 EB_PZ-147_042811 PZ-148_042811_01 EB_PZ-148_042811 TB_PZ-148_042811	All TCL compounds except Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects) UJ (all non-detects)	A	Surrogate spikes (%R) (S)
280-15184-1	RS-13_042811_01 TB_RS-13_042811 PZ-147_042811_01 EB_PZ-147_042811 PZ-148_042811_01 EB_PZ-148_042811 TB_PZ-148_042811	Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects) J (all detects) J (all detects)	A	Surrogate spikes (%R) (S)
280-15184-1	PZ-147_042811_01	All TCL compounds except Acrolein Acrylonitrile 2-Chloroethylvinyl ether Trichloroethene	J (all detects) UJ (all non-detects)	A	Surrogate spikes (%R) (S)
280-15184-1	PZ-147_042811_01	Trichloroethene	J (all detects) UJ (all non-detects)	A	Surrogate spikes (%R) (S)
280-15184-1	HAR-30_042811_01 TB-HAR-30_042811	All TCL compounds except Acrolein Acrylonitrile	J (all detects) UJ (all non-detects)	A	Surrogate spikes (%R) (S)
280-15184-1	HAR-30_042811_01 TB-HAR-30_042811	Acrolein Acrylonitrile	J (all detects) J (all detects)	A	Surrogate spikes (%R) (S)
280-15184-1	RS-13_042811_01 TB_RS-13_042811 PZ-147_042811_01 EB_PZ-147_042811 PZ-148_042811_01 EB_PZ-148_042811 TB_PZ-148_042811 HAR-30_042811_01 TB-HAR-30_042811	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-15184-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-15184-1**

No Sample Data Qualified in this SDG

LDC #: 25528C1a

VALIDATION COMPLETENESS WORKSHEET

Date: 6/03/11

SDG #: 280-15184-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: [Signature]2nd Reviewer: [Signature]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/28/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS 10
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	TB = 2, 7, 9 EB = 4, 6, EB_SH-04040711

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

*ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

FB = FB_041411-19 (280-14655-1)

(280-14379-1)

Validated Samples:

Water

1	RS-13_042811_01	11	RS-13_042811_01MSD	21	MB 280-64954/6	31	(PPHF, GGGG, II)
2	TB_RS-13_042811	12		22	MB 280-67039/6	32	
3	PZ-147_042811_01	13		23		33	
4	EB_PZ-147_042811	14		24		34	
5	PZ-148_042811_01	15		25		35	
6	EB_PZ-148_042811	16		26		36	
7	TB_PZ-148_042811	17		27		37	
8	HAR-30_042811_01	18		28		38	
9	TB-HAR-30_042811	19		29		39	
10	RS-13_042811_01MS	20		30		40	

Sd water = 1-7
VOCs, IPA, Appix A,A = 8, 9

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC. 1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl chloride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropane	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN. <i>Tetrahydrofuran</i>
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropane	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

Surrogate Spikes

Reviewer: *[Signature]*

2nd Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were all surrogate %R within QC limits?

Y N N/A If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R out of outside of criteria?

#	Date	Sample ID	Surrogate	%Recovery (Limits)	Qualifications
		1	DCE	77 (80-120)	J/HJ/A (qual all except FFFF, GGGG, II) (S)
			BFB	85 (86-115)	↓
		1	TOL	117 (88-110)	J/dets/A (qual FFFF, GGGG, II) ↓
		2	TOL	116 ()	↓
		2	BFB	82 (86-115)	J/HJ/A (qual all except FFFF, GGGG, II)
		3	BFB	84 ()	(qual all except FFFF, GGGG, II, S)
		3	BFB	84 ()	↓ (qual S)
		3	TOL	117 (88-110)	J/dets/A (qual FFFF, GGGG, II)
		4	BFB	83 (86-115)	J/HJ/A (qual all except FFFF, GGGG, II)
		4	DCE	121 (80-120)	J/dets/A (qual FFFF, GGGG, II) ↓
			TOL	112 (88-110)	↓
		5	BFB	84 (86-115)	J/HJ/A (qual all except FFFF, GGGG, II)

QC Limits (Soil)

- SMC1 (TOL) = Toluene-d8 81-117
- SMC2 (BFB) = Bromofluorobenzene 74-121
- SMC3 (DCE) = 1,2-Dichloroethane-d4 80-120
- SMC4 (DFM) = Dibromofluoromethane 70-120

QC Limits (Water)

- 86-110
- 86-115
- 80-120
- 86-118

Surrogate Spikes

Reviewer: JTB

2nd Reviewer: [Signature]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Were all surrogate %R within QC limits?
 Y (N) N/A If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R out of outside of criteria? (S)

#	Date	Sample ID	Surrogate	%Recovery (Limits)	Qualifications
		5	TOL	117 (58-110)	J dots / A (qual FFFF, GGGG, II)
		6	BFB	83 (86-115)	J / MS / A (qual all except FFFF, GGGG, II)
		6	DCE	123 (80-120)	J dots / A (qual FFFF, GGGG, II)
			TOL	112 (88-110)	↓
		7	BFB	82 (86-115)	J / MS / A (qual all except FFFF, GGGG, II)
		7	DCE	123 (80-120)	J dots / A (qual FFFF, GGGG, II)
			TOL	114 (88-110)	↓
		8	BFB	84 (86-115)	J / MS / A (all except FFFF, GGGG)
		8	DCE	125 (80-120)	J dots / A (qual FFFF, GGGG)
			TOL	113 (88-110)	↓
		9	BFB	83 (86-115)	J / MS / A (qual all except FFFF, GGGG)
		9	DCE	124 (80-120)	J dots / A (qual FFFF, GGGG)
			TOL	112 (88-110)	↓

QC Limits (Water)

- 88-110
- 86-115
- 80-120
- 86-118

QC Limits (Soil)

- 81-117
- 74-121
- 80-120
- 70-120

- SMC1 (TOL) = Toluene-d8
- SMC2 (BFB) = Bromofluorobenzene
- SMC3 (DCE) = 1,2-Dichloroethane-d4
- SMC4 (DFM) = Dibromofluoromethane

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 28, 2011

LDC Report Date: June 6, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15184-1

Sample Identification

RS-13_042811_01
TB_RS-13_042811
PZ-147_042811_01
EB_PZ-147_042811
PZ-148_042811_01
EB_PZ-148_042811
TB_PZ-148_042811
HAR-30_042811_01
TB-HAR-30_042811

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-dioxane was found in the method blanks.

Samples TB_RS-13_042811, TB_PZ-148_042811, and TB-HAR-30_042811 were identified as trip blanks. No 1,4-dioxane was found in these blanks.

Samples EB_PZ-147_042811, EB_PZ-148_042811, and EB_SH-04_040711 (from SDG 280-14379-1) were identified as equipment blanks. No 1,4-dioxane was found in these blanks.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No 1,4-dioxane was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15184-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 1,4-Dioxane - Data Qualification Summary - SDG 280-15184-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15184-1	RS-13_042811_01 TB_RS-13_042811 PZ-147_042811_01 EB_PZ-147_042811 PZ-148_042811_01 EB_PZ-148_042811 TB_PZ-148_042811 HAR-30_042811_01 TB-HAR-30_042811	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-15184-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-15184-1**

No Sample Data Qualified in this SDG

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4 / 28 / 11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS 1/b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 2, 7, 9 EB = 4, 6, EB_SH-04_046711

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

FB = FB_041411-19 (280-14655-1) (280-14379-1)
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	RS-13_042811_01	11	MB 280-66254/12	21	31
2	TB_RS-13_042811	12		22	32
3	PZ-147_042811_01	13		23	33
4	EB_PZ-147_042811	14		24	34
5	PZ-148_042811_01	15		25	35
6	EB_PZ-148_042811	16		26	36
7	TB_PZ-148_042811	17		27	37
8	HAR-30_042811_01	18		28	38
9	TB-HAR-30_042811	19		29	39
10		20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 28, 2011

LDC Report Date: June 6, 2011

Matrix: Water

Parameters: 1,2,3-Trichloropropane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15184-1/UD2933

Sample Identification

HAR-30_042811_01
TB_HAR-30_042811

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-Trichloropropane was found in the method blanks.

Sample TB_HAR-30_042811 was identified as a trip blank. No 1,2,3-Trichloropropane was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15184-1/IUD2933	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011

1,2,3-Trichloropropane - Data Qualification Summary - SDG 280-15184-1/IUD2933

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15184-1/ IUD2933	HAR-30_042811_01 TB_HAR-3_042811	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011

1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG 280-15184-1/IUD2933

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011

1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG 280-15184-1/IUD2933

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-15184-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15184-1	RS-13_042811_01 TB_RS-13_042811 PZ-147_042811_01 EB_PZ-147_042811 PZ-148_042811_01 EB_PZ-148_042811 TB_PZ-148_042811 HAR-30_042811_01 TB-HAR-30_042811	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-15184-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-15184-1**

No Sample Data Qualified in this SDG

METHOD: GC/MS 1,2,3-Trichloropropane (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/28/11</u>
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates <u>Lab Dup</u>	N/A	<u>IUD2827-01</u>
VIII.	Laboratory control samples	A	<u>UCS</u>
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	<u>TB = 2</u>

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

1	HAR-30_042811_01	11	<u>11E02M-blk1</u>	21		31	
2	TB-HAR-30_042811	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 28, 2011

LDC Report Date: June 6, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15184-1

Sample Identification

RS-13_042811_01
PZ-147_042811_01
EB_PZ-147_042811
PZ-148_042811_01
EB_PZ-148_042811
HAR-30_042811_01

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-65013/1-A	5/1/11	Diethylphthalate	1.86 ug/L	All samples in SDG 280-15184-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
RS-13_042811_01	Diethylphthalate	1.7 ug/L	9.7U ug/L
PZ-147_042811_01	Diethylphthalate	1.6 ug/L	9.9U ug/L
EB_PZ-147_042811	Diethylphthalate	1.5 ug/L	10U ug/L
PZ-148_042811_01	Diethylphthalate	1.4 ug/L	9.8U ug/L
EB_PZ-148_042811	Diethylphthalate	0.99 ug/L	10U ug/L

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
HAR-30_042811_01	Diethylphthalate	1.2 ug/L	10U ug/L

Samples EB_PZ-147_042811, EB_PZ-148_042811, and EB_SH-04_040711 (from SDG 280-14379-1) were identified as equipment blanks. No semivolatile contaminants were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-147_042811	4/28/11	Diethylphthalate	1.5 ug/L	PZ-147_042811_01
EB_PZ-148_042811	4/28/11	Diethylphthalate	0.99 ug/L	PZ-148_042811_01

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No semivolatile contaminants were found in this blank.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-147_042811_01	Diethylphthalate	1.6 ug/L	9.9U ug/L
PZ-148_042811_01	Diethylphthalate	1.4 ug/L	9.8U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15184-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-15184-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15184-1	RS-34_042711_01 WS-04A_042711_01 PZ-060_042711_01 HAR-32_042711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-15184-1**

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-15184-1	RS-13_042811_01	Diethylphthalate	9.7U ug/L	A	B
280-15184-1	PZ-147_042811_01	Diethylphthalate	9.9U ug/L	A	B
280-15184-1	EB_PZ-147_042811	Diethylphthalate	10U ug/L	A	B
280-15184-1	PZ-148_042811_01	Diethylphthalate	9.8U ug/L	A	B
280-15184-1	EB_PZ-148_042811	Diethylphthalate	10U ug/L	A	B
280-15184-1	HAR-30_042811_01	Diethylphthalate	10U ug/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles- Field Blank Data Qualification Summary - SDG 280-15184-1**

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-15184-1	PZ-147_042811_01	Diethylphthalate	9.9U ug/L	A	F
280-15184-1	PZ-148_042811_01	Diethylphthalate	9.8U ug/L	A	F

LDC #: 25528C2a
 SDG #: 280-15184-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 6/23/11
 Page: 1 of 1
 Reviewer: SVL
 2nd Reviewer: [Signature]

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/28/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS 1b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	EB = 3, 5, EB-SH-04-040711 (280-14379-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

*ND = No compounds detected
 R = Rinsate
 FB = Field blank

*FB = FB-041411-19 (280-14655-1)
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	RS-13_042811_01	11	MB 280-05013/1-A	21		31	
2	PZ-147_042811_01	12		22		32	
3	EB_PZ-147_042811	13		23		33	
4	PZ-148_042811_01	14		24		34	
5	EB_PZ-148_042811	15		25		35	
6	HAR-30_042811_01	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

8270 Full W = 1-5
 8270 APPX = 6

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis(2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,5-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes: * = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

Blanks

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- Y N N/A Was a method blank analyzed for each matrix?
- Y N N/A Was a method blank analyzed for each concentration preparation level?
- Y N N/A Was a method blank associated with every sample?
- Y N N/A Was the blank contaminated? If yes, please see qualification below.

Blank extraction date: 5/01/11 Blank analysis date: 5/05/11

Conc. units: ug/L Associated Samples: A11

Code: B

Compound	Blank ID	Sample Identification						
MB	280-65013	1-A	1	2	3	4	5	6
LL	1-86	1.7/9.74	1.6/9.94	1.5/10.4	1.4/9.84	1.2/10.4		

Blank extraction date: _____ Blank analysis date: _____

Conc. units: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification						

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET

Field Blanks

METHOD: GC/MS BNA (EPA SW 846 Method 8270)
 Y/N N/A Were field blanks identified in this SDG?
 Y/N N/A Were target compounds detected in the field blanks?
 Blank units: u5/L Associated sample units: u5/L
 Sampling date: 4/28/11
 Field blank type: (circle one) Field Blank / Rinsate / Other: FB Associated Samples: 2 Code: F

Compound	Blank ID	Sample Identification
LL	1.5	2
	1.6	1.94

Blank units: u5/L Associated sample units: u5/L
 Sampling date: 4/28/11
 Field blank type: (circle one) Field Blank / Rinsate / Other: FB Associated Samples: 4 Code: F

Compound	Blank ID	Sample Identification
LL	0.99	1.4/9.84

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 28, 2011
LDC Report Date: June 6, 2011
Matrix: Water
Parameters: N-Nitrosodimethylamine
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-15184-1

Sample Identification

RS-13_042811_01
PZ-147_042811_01
EB_PZ-147_042811
PZ-148_042811_01
EB_PZ-148_042811
HAR-30_042811_01

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-nitrosodimethylamine was found in the method blanks.

Samples EB_PZ-147_042811, EB_PZ-148_042811, and EB_SH-04_040711 (from SDG 280-14379-1) were identified as equipment blanks. No N-nitrosodimethylamine was found in these blanks.

Sample FB_041411_19 (from SDG 280-14379-1) and FB_HAR-30_042811_19 (from SDG 280-15184-2) were identified as field blanks. No N-nitrosodimethylamine was found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG280-15184-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-30_042811_01 and HAR-30_042811_36 (from SDG 280-15184-2) were identified as field duplicates. No N-nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-30_042811_01	HAR-30_042811_36			
N-nitrosodimethylamine	0.010	0.0050U	67 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-15184-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15184-1	RS-13_042811_01 PZ-147_042811_01 EB_PZ-147_042811 PZ-148_042811_01 EB_PZ-148_042811 HAR-30_042811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary – SDG 280-15184-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-15184-1**

No Sample Data Qualified in this SDG

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 6/28/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	US 10
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D = 6 + HAR-30-042811-36 (280-15184-2)
XVII.	Field blanks	ND	EB = 3, 5, EB-SH-04-040711 (280-14379-1) FB = FB-041411-19 (280-14379-1) FB-HAR-30-042811-19 (280-15184-2)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	RS-13_042811_01	11	MB 280-64942/A-A	21		31	
2	PZ-147_042811_01	12		22		32	
3	EB_PZ-147_042811	13		23		33	
4	PZ-148_042811_01	14		24		34	
5	EB_PZ-148_042811	15		25		35	
6	HAR-30_042811_01	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GCMS NDMA (EPA Method 1625M)

Y/N NA Were field duplicate pairs identified in this SDG?
Y/N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent Only)
	HAR-30_042811_01	HAR-30_042811_36		
NDMA	0.010	0.0050U	67	NQ (<5xRL)

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 28, 2011

LDC Report Date: June 6, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15184-1

Sample Identification

RS-13_042811_01
PZ-147_042811_01
EB_PZ-147_042811
PZ-148_042811_01
EB_PZ-148_042811

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per a modification of EPA SW 846 Method 8270C using Selected Ion Monitoring (SIM) for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-64929/1-A	4/29/11	Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	0.164 ug/L 0.171 ug/L	All samples in SDG 280-15184-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
RS-13_042811_01	Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	0.35 ug/L 0.19 ug/L	9.5U ug/L 9.5U ug/L
PZ-147_042811_01	Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	0.22 ug/L 0.27 ug/L	9.9U ug/L 9.9U ug/L
EB_PZ-147_042811	Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	0.18 ug/L 0.23 ug/L	10U ug/L 10U ug/L
PZ-148_042811_01	Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	0.18 ug/L 0.19 ug/L	9.7U ug/L 9.7U ug/L

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
EB_PZ-148_042811	Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	0.20 ug/L 0.23 ug/L	10U ug/L 10U ug/L

Samples EB_PZ-147_042811, EB_PZ-148_042811, and EB_SH-04_040711 (from SDG 280-14379-1) were identified as equipment blanks. No semivolatiles were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-147_042811	4/28/11	Bis(2-ethylhexyl)phthalate Butylbenzylphthalate Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	0.18 ug/L 0.12 ug/L 0.015 ug/L 0.023 ug/L 0.23 ug/L	PZ-147_042811_01
EB_PZ-148_042811	4/28/11	Bis(2-ethylhexyl)phthalate Butylbenzylphthalate Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	0.20 ug/L 0.13 ug/L 0.015 ug/L 0.019 ug/L 0.23 ug/L	PZ-148_042811_01

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No semivolatiles were found in this blank.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-147_042811_01	Bis(2-ethylhexyl)phthalate Butylbenzylphthalate Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	0.22 ug/L 0.15 ug/L 0.043 ug/L 0.21 ug/L 0.27 ug/L	9.9U ug/L 9.9U ug/L 9.9U ug/L 9.9U ug/L 9.9U ug/L
PZ-148_042811_01	Bis(2-ethylhexyl)phthalate Butylbenzylphthalate Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	0.18 ug/L 0.12 ug/L 0.048 ug/L 0.096 ug/L 0.19 ug/L	9.7U ug/L 9.7U ug/L 9.7U ug/L 9.7U ug/L 9.7U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15184-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles- Data Qualification Summary - SDG 280-15184-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15184-1	RS-13_042811_01 PZ-147_042811_01 EB_PZ-147_042811 PZ-148_042811_01 EB_PZ-148_042811	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles- Laboratory Blank Data Qualification Summary - SDG 280-15184-1**

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-15184-1	RS-13_042811_01	Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	9.5U ug/L 9.5U ug/L	A	B
280-15184-1	PZ-147_042811_01	Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	9.9U ug/L 9.9U ug/L	A	B
280-15184-1	EB_PZ-147_042811	Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	10U ug/L 10U ug/L	A	B
280-15184-1	PZ-148_042811_01	Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	9.7U ug/L 9.7U ug/L	A	B
280-15184-1	EB_PZ-148_042811	Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	10U ug/L 10U ug/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles- Field Blank Data Qualification Summary - SDG 280-15184-1**

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-15184-1	PZ-147_042811_01	Bis(2-ethylhexyl)phthalate Butylbenzylphthalate Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	9.9U ug/L 9.9U ug/L 9.9U ug/L 9.9U ug/L 9.9U ug/L	A	F
280-15184-1	PZ-148_042811_01	Bis(2-ethylhexyl)phthalate Butylbenzylphthalate Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	9.7U ug/L 9.7U ug/L 9.7U ug/L 9.7U ug/L 9.7U ug/L	A	F

LDC #: 25528C2c

VALIDATION COMPLETENESS WORKSHEET

Date: 6/27/11

SDG #: 280-15184-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: *[Signature]*

2nd Reviewer: *[Signature]*

METHOD: GC/MS *Semivolatiles* Polynuclear Aromatic Hydrocarbons (EPA SW846 Method 8270C-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/28/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS 1/2
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	EB = 3, 5, EB-SA-04-040711 (280-14379-1) FB = FB-041411-19 (280-14655-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	RS-13_042811_01	11	MB 280-64929/1-A	21	31	
2	PZ-147_042811_01	12		22	32	
3	EB_PZ-147_042811	13		23	33	
4	PZ-148_042811_01	14		24	34	
5	EB_PZ-148_042811	15		25	35	
6		16		26	36	
7		17		27	37	
8		18		28	38	
9		19		29	39	
10		20		30	40	

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes: * = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

Blanks

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- Y N N/A Was a method blank analyzed for each matrix?
- Y N N/A Was a method blank analyzed for each concentration preparation level?
- Y N N/A Was a method blank associated with every sample?
- Y N N/A Was the blank contaminated? If yes, please see qualification below.

Blank extraction date: 1/25/11 Blank analysis date: 5/06/11

Conc. units: ug/l Associated Samples: A11 Code: B

Compound	Blank ID	Sample Identification				
MB	250-6492	1	2	3	4	5
EEE	0.164	0.35 / 0.54	0.22 / 0.94	0.18 / 0.104	0.18 / 0.74	0.20 / 0.04
FFF	0.171	0.19 / ↓	0.27 / ↓	0.23 / ↓	0.19 / ↓	0.23 / ↓

Blank extraction date: _____ Blank analysis date: _____
 Conc. units: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification				

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

Y / N / N/A Were field blanks identified in this SDG?

Y / N / N/A Were target compounds detected in the field blanks?

Blank units: ug/L Associated sample units: ug/L

Sampling date: 4/28/11

Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: 2 Code: F

Compound	Blank ID	Sample Identification			
EEE	0.18	2	0.22 / 9.9 / 14		
AAA	0.17		0.15 /		
XX	0.015		0.043 /		
LL	0.023		0.21 /		
FFF	0.23		0.27 /		

Blank units: ug/L Associated sample units: ug/L

Sampling date: 4/28/11

Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: 4 Code: F

Compound	Blank ID	Sample Identification			
EEG	0.20	4	0.18 / 9.7 / 14		
AAA	0.13		0.12 /		
XX	0.015		0.048 /		
LL	0.019		0.096 /		
FFF	0.23		0.19 /		

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:

Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 28, 2011

LDC Report Date: June 6, 2011

Matrix: Water

Parameters: Pentachlorophenol

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15184-1

Sample Identification

HAR-30_042811_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Pentachlorophenol.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No pentachlorophenol was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15184-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Data Qualification Summary - SDG 280-15184-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15184-1	HAR-30_042811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Laboratory Blank Data Qualification Summary - SDG 280-15184-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Field Blank Data Qualification Summary - SDG 280-15184-1**

No Sample Data Qualified in this SDG

LDC #: 25528C2d

VALIDATION COMPLETENESS WORKSHEET

SDG #: 280-15184-1

Level V

Laboratory: Test America, Inc.

Date: 6/03/11

Page: 1 of 1

Reviewer: JVL

2nd Reviewer: [Signature]

METHOD: GC/MS Pentachlorophenol (EPA SW846 Method 8270C-D)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/28/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LES / B
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

WATER

1	HAR-30_042811_01	11	MB 280-65021/A	21	31
2		12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 28, 2011

LDC Report Date: June 6, 2011

Matrix: Water

Parameters: Chlorinated Pesticides

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15184-1

Sample Identification

HAR-30_042811_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

All target compound identifications were within validation criteria.

XIII. Compound Quantitation and Reported CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15184-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Data Qualification Summary - SDG 280-15184-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15184-1	HAR-30_042811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 280-15184-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Field Blank Data Qualification Summary - SDG 280-15184-1**

No Sample Data Qualified in this SDG

LDC #: 25528C3a
 SDG #: 280-15184-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 6/03/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/28/11</u>
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	<u>client spec</u>
VIII.	Laboratory control samples	A	<u>see ID</u>
IX.	Regional quality assurance and quality control	N	
X.	Florisil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation and reported CRQLs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates	N	
XVI.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

NRAC

1	HAR-30_042811_01	11	<u>MB 280-64951/1-A</u>	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 28, 2011

LDC Report Date: June 6, 2011

Matrix: Water

Parameters: Polychlorinated Biphenyls

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15184-1

Sample Identification

RS-13_042811_01
PZ-147_042811_01
EB_PZ-147_042811
PZ-148_042811_01
EB_PZ-148_042811
HAR-30_042811_01

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyls were found in the method blanks.

Samples EB_PZ-147_042811, EB_PZ-148_042811, and EB_SH-04_040711 (from SDG 280-14379-1) were identified as equipment blanks. No polychlorinated biphenyls were found in these blanks.

Sample FB_041411_19 (280-14655-1) was identified as a field blank. No polychlorinated biphenyls were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

Raw data were not reviewed for this SDG.

XIII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15184-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Data Qualification Summary - SDG 280-15184-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15184-1	RS-13_042811_01 PZ-147_042811_01 EB_PZ-147_042811 PZ-148_042811_01 EB_PZ-148_042811 HAR-30_042811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 280-15184-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG 280-15184-1**

No Sample Data Qualified in this SDG

LDC #: 25528C3b
 SDG #: 280-15184-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 6/22/11
 Page: 1 of 1
 Reviewer: *[Signature]*
 2nd Reviewer: *[Signature]*

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4 / 28 / 11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS / D
IX.	Regional quality assurance and quality control	N	
X.	Florisil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation and reported CRQLs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates	N	
XVI.	Field blanks		EB = 3, 5, EB_SH-04-040711 (280-14379-1)

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: *Water*

1	RS-13_042811_01	11	MB 280-64957 / 1-A	21		31	
2	PZ-147_042811_01	12		22		32	
3	EB_PZ-147_042811	13		23		33	
4	PZ-148_042811_01	14		24		34	
5	EB_PZ-148_042811	15		25		35	
6	HAR-30_042811_01	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 28, 2011
LDC Report Date: June 2, 2011
Matrix: Water
Parameters: Metals
Validation Level: Level V
Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15184-1

Sample Identification

HAR-30_042811_01
RS-13_042811_01F
PZ-147_042811_01F
EB_PZ-147_042811F
PZ-148_042811_01F
EB_PZ-148_042811F
HAR-30_042811_01F
HAR-30_042811_01MS
HAR-30_042811_01MSD
RS-13_042811_01FMS
RS-13_042811_01FMMSD
PZ-147_042811_01FMS
PZ-147_042811_01FMMSD
HAR-30_042811FMS
HAR-30_042811FMMSD

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 15 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B, 6020, and 7000 for Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No metal contaminants were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Manganese	0.000370 mg/L	HAR-30_042811_01
PB (prep blank)	Antimony Sodium	0.00426 mg/L 0.195 mg/L	RS-13_042811_01F PZ-147_042811_01F EB_PZ-147_042811F PZ-148_042811_01F EB_PZ-148_042811F HAR-30_042811_01F

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
RS-13_042811_01F	Antimony	0.0034 mg/L	0.0034U mg/L
EB_PZ-147_042811F	Sodium	0.15 mg/L	0.15U mg/L
EB_PZ-148_042811F	Sodium	0.16 mg/L	0.16U mg/L

Samples EB_PZ-147_042811F, EB_PZ-148_042811F and EB_SH-04_040711F (from SDG 280-14379-1) were identified as equipment blanks. No metal contaminants were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_PZ-147_042811F	4/28/11	Sodium	0.15 mg/L	PZ-147_042811_01F
EB_PZ-148_042811F	4/28/11	Magnesium Sodium	0.013 mg/L 0.16 mg/L	PZ-148_042811_01F
EB_SH-04_040711F	4/7/11	Silver	0.000018 mg/L	RS-13_042811_01F

Sample FB_041411_19F (from SDG 280-14655-1) was identified as a field blank. No metal contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_041411_19F	4/14/11	Iron Manganese Sodium	0.082 mg/L 0.0012 mg/L 0.29 mg/L	RS-13_042811_01F PZ-147_042811_01F PZ-148_042811_01F

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
RS-13_042811_01F	Manganese	0.0028 mg/L	0.0028U mg/L
PZ-147_042811_01F	Manganese	0.00074 mg/L	0.00074U mg/L

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
HAR-30_042811_01MS/MSD (HAR-30_042811_01)	Mercury	74 (75-120)	-	-	J (all detects) UJ (all non-detects)	A

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution data were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-15184-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Data Qualification Summary - SDG 280-15184-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-15184-1	HAR-30_042811_01	Mercury	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
280-15184-1	HAR-30_042811_01 RS-13_042811_01F PZ-147_042811_01F EB_PZ-147_042811F PZ-148_042811_01F EB_PZ-148_042811F HAR-30_042811_01F	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Laboratory Blank Data Qualification Summary - SDG 280-15184-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-15184-1	RS-13_042811_01F	Antimony	0.0034U mg/L	A	B
280-15184-1	EB_PZ-147_042811F	Sodium	0.15U mg/L	A	B
280-15184-1	EB_PZ-148_042811F	Sodium	0.16U mg/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Field Blank Data Qualification Summary - SDG 280-15184-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-15184-1	RS-13_042811_01F	Manganese	0.0028U mg/L	A	F
280-15184-1	PZ-147_042811_01F	Manganese	0.00074U mg/L	A	F

LDC #: 25528C4
 SDG #: 280-15184-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 6-1-11
 Page: 1 of 1
 Reviewer: MG
 2nd Reviewer: [Signature]

METHOD: Metals (EPA SW 846 Method 6010B/6020/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4-28-11</u>
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	SW	MS/MSD
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	A	LCS/LCSD
IX.	Internal Standard (ICP-MS)	N	not reviewed
X.	Furnace Atomic Absorption QC	N	not utilized
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	FB = FB-041411-19F (SDG: 280-14655-1)
XIV.	Field Duplicates	N	EB = EB-SH-04-040711F (SDG: 280-14379-1)
XV.	Field Blanks	SW	EB = 4, 6

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:
oil water

1	HAR-30_042811_01	11	RS-13_042811_01FMMSD	21		31	
2	RS-13_042811_01F	12	PZ-147_042811_01FMS	22		32	
3	PZ-147_042811_01F	13	PZ-147_042811_01FMMSD	23		33	
4	EB_PZ-147_042811F	14	HAR-30_042811FMS	24		34	
5	PZ-148_042811_01F	15	HAR-30_042811FMMSD	25		35	
6	EB_PZ-148_042811F	16		26		36	
7	HAR-30_042811_01F	17		27		37	
8	HAR-30_042811_01MS	18		28		38	
9	HAR-30_042811_01MSD	19		29	PBW1	39	
10	RS-13_042811_01FMS	20		30	PBW2	40	

Notes: Samples appended with "F" were analyzed for dissolved metals

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000) Soil preparation factor applied: NA
 Sample Concentration units, unless otherwise noted: mg/L Associated Samples: all total (>5x)

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	No Qual.					
Mn		0.000370		0.00185						

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000) Soil preparation factor applied: NA
 Sample Concentration units, unless otherwise noted: mg/L Associated Samples: all dissolved Qual: U (B)

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	2	4	6			
Sb		0.00426		0.0213	0.0034					
Na		0.195		0.975		0.15	0.16			

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

Y/N N/A Were field blanks identified in this SDG?

Y/N N/A Were target analytes detected in the field blanks?

Blank units: mg/L Associated sample units: mg/L

Sampling date: 4/28/11 Soil factor applied: NA

Field blank type: (circle one) Field Blank / Rinsate Other **EB** Associated Samples: 3 (>5x)

Analyte	Blank ID	Action Level	No Qual's	Sample Identification				
Na	0.15	0.75						

Blank units: mg/L Associated sample units: mg/L

Sampling date: 4/28/11 Soil factor applied: NA

Field blank type: (circle one) Field Blank / Rinsate Other **EB** Associated Samples: 5 (>5x)

Analyte	Blank ID	Action Level	No Qual's	Sample Identification				
Mg	0.013	0.065						
Na	0.16	0.8						

Blank units: mg/L Associated sample units: mg/L

Sampling date: 4/7/11 Soil factor applied: NA

Field blank type: (circle one) Field Blank / Rinsate Other **EB** Associated Samples: 2 (ND, Not analyzed for Sn and Hg)

Analyte	Blank ID	Action Level	No Qual's	Sample Identification				
Ag	0.000018	0.00009						
Sr	0.000000	0.00015						
Hg	0.000034	0.00047						

VALIDATION FINDINGS WORKSHEET

Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

N/A Were field blanks identified in this SDG?

N/A Were target analytes detected in the field blanks?

Blank units: mg/L Associated sample units: mg/L

Sampling date: 4/14/11 Soil factor applied: NA

Field blank type: (circle one) Field Blank / Rinsate / Other: NA

Associated Samples: 2, 3, 5 (Not analyzed for Sn)

Qual: U (F)

Analyte	Blank ID	Action Level	2	3	Sample Identification					
Fe	FB_041411_19F	0.41								
Mn		0.006	0.0028	0.00074						
Na		1.45								
Sn	0.00047	0.00005								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:

Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC #: 25528C4

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: MG
2nd Reviewer: _____

METHOD: Trace metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a matrix spike analyzed for each matrix in this SDG?

Y N N/A Were matrix spike percent recoveries (%R) within the control limits of 75-125? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.

Y N N/A Were all duplicate sample relative differences (RPD) $\leq 20\%$ for water samples and $\leq 35\%$ for soil samples?

LEVEL IV ONLY:

Y N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	MS/MSD ID	Matrix	Analyte	MS %Recovery	MSD %Recovery	RPD (Limits)	Associated Samples	Qualifications
1	8/9	water	Hg	74 (75-120)			1	J/UJ/A (Q)

Comments: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 28, 2011

LDC Report Date: June 6, 2011

Matrix: Water

Parameters: Herbicides

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15184-1

Sample Identification

HAR-30_042811_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8151A for Herbicides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No herbicide contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
MB 280-65283/1-A	5/3/11	2,4-D	0.372 ug/L	All samples in SDG 280-15184-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/(Matrix Spike) Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15184-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Data Qualification Summary - SDG 280-15184-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15184-1	HAR-30_042811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Laboratory Blank Data Qualification Summary - SDG 280-15184-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Field Blank Data Qualification Summary - SDG 280-15184-1**

No Sample Data Qualified in this SDG

LDC #: 25528C5

VALIDATION COMPLETENESS WORKSHEET

Date: 6/03/11

SDG #: 280-15184-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: *[Signature]*
2nd Reviewer: *[Signature]*

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/28/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	SW	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	ICS 10
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	HAR-30_042811_01	i1	MB 280-45283/1-A	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

VALIDATION FINDINGS WORKSHEET

METHOD: GC HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- Y N N/A Were all samples associated with a given method blank?
- Y N N/A Was a method blank performed for each matrix and whenever a sample extraction procedure was performed?
- Y N N/A Was a method blank performed with each extraction batch?
- Y N N/A Were any contaminants found in the method blanks? If yes, please see findings below.

Level M/D Only

- Y N N/A (Gasoline and aromatics only) Was a method blank analyzed with each 24 hour batch?
- Y N N/A Was a method blank analyzed for each analytical extraction batch of ≤20 samples?

Blank extraction date: 5/07/11 Blank analysis date: 5/04/11 Associated samples: All (MD)

Conc. units: ug/L

Compound	Blank ID	Sample Identification
	MB 280-65283/1+A	
2,4-D	0.372	

Blank extraction date: _____ Blank analysis date: _____ Associated samples: _____

Conc. units: _____

Compound	Blank ID	Sample Identification

ALL CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT: All contaminants within five times the method blank concentration were qualified as not detected, "U".

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 28, 2011
LDC Report Date: June 2, 2011
Matrix: Water
Parameters: Wet Chemistry
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-15184-1

Sample Identification

RS-13_042811_01
PZ-147_042811_01
EB_PZ-147_042811
PZ-148_042811_01
EB_PZ-148_042811
HAR-30_042811_01
HAR-30_042811_01MS
HAR-30_042811_01MSD
HAR-30_042811_01DUP

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Standard Method 2320B for Alkalinity, EPA Method 350.1 for Ammonia as Nitrogen, EPA Method 300.0 for Bromide, Chloride, Fluoride, Nitrate, Nitrite, Orthophosphate, and Sulfate, Standard Method 2510B for Conductivity, EPA SW 846 Method 9012A for Cyanide, EPA SW 846 Method 7196A for Hexavalent Chromium and Dissolved Hexavalent Chromium, EPA Method 314.0 for Perchlorate, EPA SW 846 Method 9040B for pH, Standard Method 4500-S2-D for Sulfide, Standard Method 2540C for Total Dissolved Solids, and EPA Method 180.1 for Turbidity.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

Raw data were not reviewed for this SDG. The review was based on QC data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

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- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
RS-13_042811_01	pH	54.50 hours	48 hours	J (all detects) UJ (all non-detects)	P
PZ-147_042811_01	Hexavalent chromium	29.50 hours	24 hours	J (all detects) UJ (all non-detects)	P
	Dissolved hexavalent chromium	29.75 hours	24 hours	J (all detects) UJ (all non-detects)	
EB_PZ-147_042811	Hexavalent chromium	29.50 hours	24 hours	J (all detects) UJ (all non-detects)	P
	Dissolved hexavalent chromium	29.75 hours	24 hours	J (all detects) UJ (all non-detects)	
PZ-148_042811_01	Hexavalent chromium	30.50 hours	24 hours	J (all detects) UJ (all non-detects)	P
	Dissolved hexavalent chromium	30.75 hours	24 hours	J (all detects) UJ (all non-detects)	
EB_PZ-148_042811	Hexavalent chromium	30.50 hours	24 hours	J (all detects) UJ (all non-detects)	P
	Dissolved hexavalent chromium	30.75 hours	24 hours	J (all detects) UJ (all non-detects)	

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
PB (prep blank)	Ammonia as N	0.0685 mg/L	RS-13_042811_01 HAR-30_042811_01

Method Blank ID	Analyte	Concentration	Associated Samples
PB (prep blank)	Cyanide	0.00294 mg/L	HAR-30_042811_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
RS-13_042811_01	Ammonia as N	0.078 mg/L	0.078U mg/L
HAR-30_042811_01	Ammonia as N Cyanide	0.080 mg/L 0.0060 mg/L	0.080U mg/L 0.0060U mg/L

Samples EB_PZ-147_042811, EB_PZ-148_042811, and EB_SH-04_040711 (from SDG 280-14379-1) were identified as equipment blanks. No contaminant concentrations were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_PZ-148_042811	4/28/11	Chlorine	0.30 mg/L	PZ-148_042811_01
EB_SH-04_040711	4/7/11	Fluoride Nitrate Ammonia as N pH	0.11 mg/L 0.19 mg/L 0.091 mg/L 5.83 units	RS-13_042811_01

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No contaminant concentrations were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_041411_19	4/14/11	pH	5.81 units	RS-13_042811_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
RS-13_042811_01	Fluoride Nitrate Ammonia as N	0.50 mg/L 0.43 mg/L 0.078 mg/L	0.50U mg/L 0.43U mg/L 0.078U mg/L

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-15184-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-15184-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-15184-1	RS-13_042811_01	pH	J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-15184-1	PZ-147_042811_01 EB_PZ-147_042811 PZ-148_042811_01 EB_PZ-148_042811	Hexavalent chromium Dissolved hexavalent chromium	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-15184-1	RS-13_042811_01 PZ-147_042811_01 EB_PZ-147_042811 PZ-148_042811_01 EB_PZ-148_042811 HAR-30_042811_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-15184-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-15184-1	RS-13_042811_01	Ammonia as N	0.078U mg/L	A	B
280-15184-1	HAR-30_042811_01	Ammonia as N Cyanide	0.080U mg/L 0.0060U mg/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-15184-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-15184-1	RS-13_042811_01	Fluoride Nitrate Ammonia as N	0.50U mg/L 0.43U mg/L 0.078U mg/L	A	F

LDC #: 25528C6
 SDG #: 280-15184-1
 Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 6-1-11
 Page: 1 of 1
 Reviewer: MG
 2nd Reviewer: [Signature]

METHOD: (Analyte) Alkalinity (SM2320B), Ammonia-N (EPA Method 350.1), Bromide, Chloride, Fluoride, Nitrate, Nitrite, Orthophosphate, Sulfate (EPA Method 300.0), Conductivity (SM2510B), Cyanide (EPA SW846 Method 9012A), Hexavalent Chromium & Dissolved Hexavalent Chromium (EPA SW846 Method 7196A), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B), Sulfide (SM4500-S2 D), TDS (SM2540C), Turbidity (EPA Method 180.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: <u>4-28-11</u>
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	SW	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/MSD
V	Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS/LCSD
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	FB = FB_041411-19 (SDG: 280-14655-1)
X	Field blanks	SW	EB = 3*, 5, EB-SH-04-040711

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

* = ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

(SDG: 280-14379-1)

Validated Samples:
all water

1	RS-13_042811_01	11		21		31	
2	PZ-147_042811_01	12		22		32	
3	EB_PZ-147_042811	13		23		33	
4	PZ-148_042811_01	14		24		34	
5	EB_PZ-148_042811	15		25		35	
6	HAR-30_042811_01	16		26		36	
7	HAR-30_042811_01MS	17		27		37	
8	HAR-30_042811_01MSD	18		28		38	
9	HAR-30_042811_01DUP	19		29		39	
10		20	PBW	30		40	

Notes: _____

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: Inorganics, EPA Method See Cover
 Y **N** **N/A** Were field blanks identified in this SDG?
 Y **N** **N/A** Were target analytes detected in the field blanks?

Blank units: mg/L. **Associated sample units:** mg/L
Sampling date: 4/28/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / **Other** EB Associated Samples: 4 (>5x)

Analyte	Blank ID	Action Limit	Sample Identification		
	<u>5</u>		No Qual's.		
Cl	<u>0.30</u>	<u>1.5</u>			

Blank units: mg/L. **Associated sample units:** mg/L
Sampling date: 4/7/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / **Other** EB Associated Samples: 1 (Not analyzed for CN) Qual: U (F)

Analyte	Blank ID	Action Limit	Sample Identification		
	<u>EB SH-04 040711</u>		1		
F	<u>0.11</u>	<u>0.55</u>	<u>0.50</u>		
NO3	<u>0.19</u>	<u>0.95</u>	<u>0.43</u>		
NH3-N	<u>0.091</u>	<u>0.455</u>	<u>0.078</u>		
CN	<u>0.0020</u>	<u>0.01</u>			
pH (pH units)	<u>5.83</u>				

Blank units: pH units. **Associated sample units:** pH units
Sampling date: 4/14/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: 1, 2, 4 (# 2 and 4 not analyzed for pH)

Analyte	Blank ID	Action Limit	Sample Identification		
	<u>FB 041411 19</u>		No Qual's.		
pH	<u>5.81</u>				

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 28, 2011

LDC Report Date: June 6, 2011

Matrix: Water

Parameters: Diesel Range Organics

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15184-1

Sample Identification

RS-13_042811_01
PZ-147_042811_01
EB_PZ-147_042811
PZ-148_042811_01
EB_PZ-148_042811
HAR-30_042811_01

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Diesel Range Organics.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No diesel range organic contaminants were found in the method blanks.

Samples EB_PZ-147_042811, EB_PZ-148_042811, and EB_SH-04_040711 (from SDG 280-14379-1) were identified as equipment blanks. No diesel range organic contaminants were found in these blanks.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No diesel range organic contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15184-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Data Qualification Summary - SDG 280-15184-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15184-1	RS-13_042811_01 PZ-147_042811_01 EB_PZ-147_042811 PZ-148_042811_01 EB_PZ-148_042811 HAR-30_042811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Laboratory Blank Data Qualification Summary - SDG 280-15184-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Field Blank Data Qualification Summary - SDG 280-15184-1**

No Sample Data Qualified in this SDG

LDC #: 25528C8
 SDG #: 280-15184-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 6/28/11
 Page: 1 of 1
 Reviewer: JVB
 2nd Reviewer: [Signature]

METHOD: GC Diesel Range Organics (Oklahoma Department of Environmental Quality) *8015B*

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/28/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	LCS 1P
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	EB = 3, 5 EB-SH-04040711 (280-14379-1) FB = FB-040711-19 (280-14655-1)

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: *Water*

1	RS-13_042811_01	11	MB 280-64894 1-A	21	31
2	PZ-147_042811_01	12		22	32
3	EB_PZ-147_042811	13		23	33
4	PZ-148_042811_01	14		24	34
5	EB_PZ-148_042811	15		25	35
6	HAR-30_042811_01	16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 28, 2011
LDC Report Date: June 6, 2011
Matrix: Water
Parameters: 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-15184-1

Sample Identification

HAR-30_042811_01
TB_HAR-30_042811

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 504.1 for 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in the method blanks.

Sample TB_HAR-30_042811 was identified as a trip blank. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15184-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011

**1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Data Qualification Summary -
SDG 280-15184-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15184-1	HAR-30_042811_01 TB_HAR-30_042811	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011

**1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Laboratory Blank Data
Qualification Summary - SDG 280-15184-1**

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011

**1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Field Blank Data Qualification
Summary - SDG 280-15184-1**

No Sample Data Qualified in this SDG

LDC #: 25528C10

VALIDATION COMPLETENESS WORKSHEET

Date: 6/03/11

SDG #: 280-15184-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JVG

2nd Reviewer: CL

METHOD: GC 1,2-Dibromomethane & 1,2-Dibromo-3-chloropropane (EPA Method 504.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/28/11</u>
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	<u>client spec</u>
VII.	Laboratory control samples	A	<u>LCS / D</u>
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	<u>TB = 2</u>

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: Water

1	HAR-30_042811_01	11	<u>MB 280-65681 A=A</u>	21		31	
2	TB-HAR-30_042811	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 28, 2011

LDC Report Date: June 6, 2011

Matrix: Water

Parameters: Organophosphorus Pesticides

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15184-1

Sample Identification

HAR-30_042811_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8141A for Organophosphorus Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No organophosphorus pesticide contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15184-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Data Qualification Summary - SDG 280-15184-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15184-1	HAR-30_042811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Laboratory Blank Data Qualification Summary - SDG 280-15184-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Field Blank Data Qualification Summary - SDG 280-15184-1**

No Sample Data Qualified in this SDG

LDC #: 25528C17

VALIDATION COMPLETENESS WORKSHEET

SDG #: 280-15184-1

Level V

Laboratory: Test America, Inc.

Date: 6/03/11

Page: 1 of 1

Reviewer: JVC

2nd Reviewer: [Signature]

METHOD: GC Organophosphorus Pesticides (EPA SW 846 Method 8141A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/28/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	US 10
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	HAR-30_042811_01	11	MB 280-65220/A	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 28, 2011

LDC Report Date: June 6, 2011

Matrix: Water

Parameters: Hexachlorophene

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15184-1

Sample Identification

HAR-30_042811_01

HAR-30_042811_01MS

HAR-30_042811_01MSD

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8321A for Hexachlorophene.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No hexachlorophene was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15184-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Data Qualification Summary - SDG 280-15184-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15184-1	HAR-30_042811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Laboratory Blank Data Qualification Summary - SDG 280-15184-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Field Blank Data Qualification Summary - SDG 280-15184-1**

No Sample Data Qualified in this SDG

LDC #: 25528C44
 SDG #: 280-15184-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 6/6/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: LC/MS Hexachlorophene (EPA SW 846 Method 8321A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/28/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

1	HAR-30_042811_01	11	MB 280-65562/10	21		31	
2	HAR-30_042811_01MS	12		22		32	
3	HAR-30_042811_01MSD	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 28, 2011

LDC Report Date: June 6, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15184-1/A1D290602

Sample Identification

RS-13_042811_01
PZ-147_042811_01
EB_PZ-147_042811
PZ-148_042811_01
EB_PZ-148_042811
HAR-30_042811_01

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

Samples EB_PZ-147_042811, EB_PZ-148_042811, and EB_SH-04_040711 (from SDG 280-14379-1) were identified as equipment blanks. No formaldehyde was found in these blanks.

Sample FB_041411_19 (from SDG 14655-1) was identified as a field blank. No formaldehyde was found in this blank.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG280-15184-1/A1D290602	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Data Qualification Summary - SDG 280-15184-1/A1D290602**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15184-1/ A1D290602	RS-13_042811_01 PZ-147_042811_01 EB_PZ-147_042811 PZ-148_042811_01 EB_PZ-148_042811 HAR-30_042811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-15184-1/A1D290602**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Field Blank Data Qualification Summary - SDG 280-15184-1/A1D290602**

No Sample Data Qualified in this SDG

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/28/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	ICS
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	EB = 3, 5, EB-SH-04-040711 (280-14379-1) FB = FB-041411-19 (280-14655-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	RS-13_042811_01	11	1119376-BIK	21		31	
2	PZ-147_042811_01	12		22		32	
3	EB_PZ-147_042811	13		23		33	
4	PZ-148_042811_01	14		24		34	
5	EB_PZ-148_042811	15		25		35	
6	HAR-30_042811_01	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 28, 2011

LDC Report Date: June 6, 2011

Matrix: Water

Parameters: Hydrazines

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15184-1

Sample Identification

RS-13_042811_01
HAR-30_042811_01
RS-13_042811_01MS
RS-13_042811_01MSD

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DVWC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazine contaminants were found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No hydrazine contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No hydrazine contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15184-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-15184-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15184-1	RS-13_042811_01 HAR-30_042811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-15184-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-15184-1**

No Sample Data Qualified in this SDG

LDC #: 25528C76

VALIDATION COMPLETENESS WORKSHEET

Date: 6/03/11

SDG #: 280-15184-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: MB

2nd Reviewer: Q

METHOD: HPLC Hydrazines (Method DVWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/28/11
II	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	A	
VII.	Laboratory control samples	A	LCS / D
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	EB = EB-SH-04_040711 (280-14379-1) FB = FB-041411-19 (280-14655-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

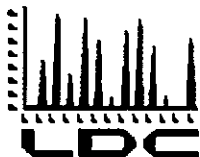
ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	RS-13_042811_01	11	MB 280-65479/25	21		31	
2	HAR-30_042811_01	12	MB 280-65703/25	22		32	
3	RS-13_042811_01MS	13		23		33	
4	RS-13_042811_01MSD	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

June 16, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

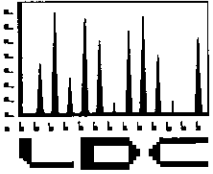
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 24, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25528:

<u>SDG #</u>	<u>Fraction</u>
280-15069-1/IUD2837/ A1D270448	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Pentachlorophenol, N-
280-15126-1/IUD2827/ A1D280509	Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet
280-15184-1/IUD2933/ A1D290602	Chemistry, Diesel Range Organics, 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane,
280-15257-1/IUE0199/ A1D300419	Organophosphorus Pesticides, Hexachlorophene, Formaldehyde, Hydrazine
280-15257-2	N-Nitrosodimethylamine
IUD2042	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Hexachlorophene, Herbicides, Wet Chemistry TPH as Extractables, 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane, Organophosphorus Pesticides, Dioxins/Dibenzofurans, Formaldehyde, Hydrazine, Perchlorate
IUD2221	Volatiles, 1,4-Dioxane, Semivolatiles, N-Nitrosodimethylamine, Polychlorinated Biphenyls, Dissolved Metals, Wet Chemistry, TPH as Extractables, Dioxins/Dibenzofurans, Formaldehyde, Hydrazine

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009



- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV LDC #25528 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B) 8260B-S		1,4-Dioxane (8260B-S)		1,2,3-TCP (524.2)		SVOA (8270C) -SIM		SVOA (8270C) -LL		PCP (8270C) -LL		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (OK-DEQ)		EDB (504.1)		Formaldehyde (8315)		Hexachlorophene (8321A)		OPHS Pest. (8141A)		Herbs (8151A)									
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S								
Matrix: Water/Soil																																													
A	280-15069-1/ IUD2837/ A1D270448	05/24/11	06/15/11	11	0	10	0	2	0	7	0	2	0	1	0	7	0	1	0	3	0	3	0	3	0	5	0	4	0	2	0	7	0	1	0	1	0	1	0	1	0				
B	280-15126-1/ IUD2827/ A1D280509	05/24/11	06/15/11	6	0	6	0	4	0	-	3	0	3	0	3	0	3	0	3	0	3	0	3	0	3	0	3	0	6	0	3	0	3	0	3	0	3	0	3	0	3	0			
C	280-15184-1/ IUD2933/ A1D290602	05/24/11	06/15/11	9	0	9	0	2	0	6	0	5	0	1	0	6	0	1	0	6	0	6	0	1	0	6	0	6	0	2	0	6	0	1	0	1	0	1	0	1	0	1	0		
D	280-15257-1/ IUE0199/ A1D300419	05/24/11	06/15/11	11	0	11	0	5	0	7	0	4	0	1	0	5	0	1	0	7	0	7	0	1	0	7	0	7	0	2	0	3	0	1	0	1	0	1	0	1	0	1	0		
E	280-15257-2	05/24/11	06/15/11	-	-	-	-	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
F	IUD2042	05/24/11	06/15/11	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0		
G	IUD2221	05/24/11	06/15/11	1	0	1	0	-	-	1	0	1	0	-	-	1	0	-	-	1	0	-	1	0	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Total	T/PG			39	0	38	0	16	0	26	0	12	0	6	0	25	0	7	0	21	0	9	0	23	0	22	0	13	0	21	0	7	0	7	0	7	0	7	0	7	0	7	0	7	0

Client Select IV LDC #25528 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	Dioxins (8290)		CLO ₄ (6860)	1,1-DMH (DVWC 0077)		MMH (DVWC 0077)	Hydrazine (DVWC)		Alk. (2320B)	NH ₃ -N (350.1)		Cl SO ₄ (300.0)	F NO ₃ (300.0)		Br NO ₂ -N O-PO ₄		Cr(VI) & Diss. Cr(VI)		CN- (9012A)		Cond. (2510B)		CLO ₄ (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)											
				W	S		W	S		W	S		W	S		W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S				
Matrix: Water/Soil																																											
A	280-15069-1	05/24/11	06/15/11	-	-	-	5	0	5	0	2	0	5	0	4	0	7	0	2	0	2	0	1	0	2	0	5	0	5	0	2	0	2	0	2	0	2	0	2	0			
B	280-15126-1	05/24/11	06/15/11	-	-	-	3	0	2	0	1	0	3	0	1	0	3	0	-	-	-	-	3	0	1	0	3	0	3	0	1	0	1	0	1	0	1	0	1	0	1	0	
C	280-15184-1	05/24/11	06/15/11	-	-	-	2	0	2	0	1	0	2	0	6	0	6	0	5	0	4	0	1	0	1	0	2	0	2	0	2	0	1	0	1	0	1	0	1	0	1	0	
D	280-15257-1	05/24/11	06/15/11	-	-	-	1	0	-	2	0	1	0	1	0	3	0	2	0	-	-	-	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	
F	IUD2042/HAL74/ G1D220529/ 1D22017	05/24/11	06/15/11	1	0	1	0	1	0	1	0	-	1	0	-	1	0	1	0	-	-	-	1	0	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
G	IUD2221/ HAL74/ G1D260546	05/24/11	06/15/11	1	0	-	1	0	1	0	-	-	-	-	1	0	1	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total	T/PG			2	0	1	0	13	0	11	0	5	0	12	0	15	0	21	0	10	0	8	0	7	0	5	0	12	0	12	0	5	0	5	0	5	0	5	0	5	0	5	0

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 29, 2011

LDC Report Date: June 3, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15257-1

Sample Identification

RD-104_042911_01
TB_RD-104_042911
PZ-158_042911_01
EB_PZ-158_042911
TB_PZ-158_042911
PZ-146_042911_01
EB_PZ-146_042911
TB-PZ-146_042911
PZ-152_042911_01
EB_PZ-152_042911
TB_PZ-152_042911
PZ-158_042911_01MS
PZ-158_042911_01MSD

Introduction

This data review covers 13 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-67093/5	5/12/11	Trichloroethene	0.204 ug/L	All samples in SDG 280-15257-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
TB_RD-104_042911	Trichloroethene	0.17 ug/L	1.0U ug/L
PZ-158_042911_01	Trichloroethene	0.66 ug/L	1.0U ug/L
EB_PZ-158_042911	Trichloroethene	0.19 ug/L	1.0U ug/L
TB_PZ-158_042911	Trichloroethene	0.20 ug/L	1.0U ug/L
EB_PZ-146_042911	Trichloroethene	0.21 ug/L	1.0U ug/L

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
TB-PZ-146_042911	Trichloroethene	0.19 ug/L	1.0U ug/L
PZ-152_042911_01	Trichloroethene	0.27 ug/L	1.0U ug/L
EB_PZ-152_042911	Trichloroethene	0.21 ug/L	1.0U ug/L
TB_PZ-152_042911	Trichloroethene	0.21 ug/L	1.0U ug/L

Samples TB_RD-104_042911, TB_PZ-158_042911, TB-PZ-146_042911, and TB_PZ-152_042911 were identified as trip blanks. No volatile contaminants were found in these blanks with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
TB_RD-104_042911	4/29/11	Trichloroethene	0.17 ug/L	RD-104_042911_01
TB_PZ-158_042911	4/29/10	Trichloroethene Tetrahydrofuran	0.20 ug/L 2.5 ug/L	PZ-158_042911_01 EB_PZ-158_042911
TB-PZ-146_042911	4/29/11	Trichloroethene Tetrahydrofuran	0.19 ug/L 3.1 ug/L	PZ-146_042911_01 EB_PZ-146_042911
TB_PZ-152_042911	4/29/11	Trichloroethene	0.21 ug/L	PZ-152_042911_01 EB_PZ-152_042911

Samples EB_PZ-158_042911, EB_PZ-146_042911, and EB_PZ-152_042911 were identified as equipment blanks. No volatile contaminants were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-158_042911	4/29/11	Chloroform Trichloroethene	0.48 ug/L 0.19 ug/L	PZ-158_042911_01
EB_PZ-146_042911	4/29/11	Chloroform Trichloroethene	0.49 ug/L 0.21 ug/L	PZ-146_042911_01
EB_PZ-152_042911	4/29/11	Chloroform Trichloroethene	0.52 ug/L 0.21 ug/L	PZ-152_042911_01

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No volatile contaminants were found in this blank.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-158_042911_01	Trichloroethene	0.66 ug/L	1.0U ug/L
EB_PZ-158_042911	Trichloroethene	0.19 ug/L	1.0U ug/L
EB_PZ-146_042911	Trichloroethene	0.21 ug/L	1.0U ug/L
PZ-152_042911_01	Trichloroethene	0.27 ug/L	1.0U ug/L
EB_PZ-152_042911	Trichloroethene	0.21 ug/L	1.0U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
TB_RD-104_042911	1,2-Dichloroethane-d4 Bromofluorobenzene Dibromofluoromethane	75 (80-120) 85 (86-115) 80 (86-118)	All TCL compounds except Acrolein Acrylonitrile	J (all detects) UJ (all non-detects)	A
EB_PZ-158_042911	1,2-Dichloroethane-d4 Bromofluorobenzene Dibromofluoromethane	78 (80-120) 85 (86-115) 83 (86-118)	All TCL compounds except Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects) UJ (all non-detects)	A
TB_PZ-158_042911	Bromofluorobenzene Dibromofluoromethane	85 (86-115) 85 (86-118)	All TCL compounds except Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects) UJ (all non-detects)	A
TB_PZ-158_042911	1,2-Dichloroethane-d4	122 (80-120)	Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects)	A
EB_PZ-146_042911	1,2-Dichloroethane-d4	126 (80-120)	Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects)	A
TB-PZ-146_042911	1,2-Dichloroethane-d4	126 (80-120)	Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects)	A

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
PZ-152_042911_01	1,2-Dichloroethane-d4	129 (80-120)	Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects)	A
EB_PZ-152_042911	1,2-Dichloroethane-d4	124 (80-120)	Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects)	A
TB_PZ-152_042911	1,2-Dichloroethane-d4	131 (80-120)	Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects)	A

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D 280-67093/4,17 (RD-104_042911_01 TB_RD-104_042911 PZ-158_042911_01 EB_PZ-158_042911 TB_PZ-158_042911 PZ-146_042911_01 EB_PZ-146_042911 TB-PZ-146_042911 PZ-152_042911_01 EB_PZ-152_042911 TB_PZ-152_042911 MB 280-67093/5)	Carbon disulfide Methylene chloride Vinyl acetate	52 (56-120) 56 (60-134) -	- 58 (60-134) -	46 (≤20) - 37 (≤24)	J (all detects) UJ (all non-detects)	P

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15257-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-15257-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15257-1	TB_RD-104_042911	All TCL compounds except Acrolein Acrylonitrile	J (all detects) UJ (all non-detects)	A	Surrogate spikes (%R) (S)
280-15257-1	EB_PZ-158_042911 TB_PZ-158_042911	All TCL compounds except Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects) UJ (all non-detects)	A	Surrogate spikes (%R) (S)
280-15257-1	TB_PZ-158_042911 EB_PZ-146_042911 TB-PZ-146_042911 PZ-152_042911_01 EB_PZ-152_042911 TB_PZ-152_042911	Acrolein Acrylonitrile 2-Chloroethylvinyl ether	J (all detects)	A	Surrogate spikes (%R) (S)
280-15257-1	RD-104_042911_01 TB_RD-104_042911 PZ-158_042911_01 EB_PZ-158_042911 TB_PZ-158_042911 PZ-146_042911_01 EB_PZ-146_042911 TB-PZ-146_042911 PZ-152_042911_01 EB_PZ-152_042911 TB_PZ-152_042911	Carbon disulfide	J (all detects) UJ (all non-detects)	P	Laboratory control samples (%R)(RPD) (L,E)
280-15257-1	RD-104_042911_01 TB_RD-104_042911 PZ-158_042911_01 EB_PZ-158_042911 TB_PZ-158_042911 PZ-146_042911_01 EB_PZ-146_042911 TB-PZ-146_042911 PZ-152_042911_01 EB_PZ-152_042911 TB_PZ-152_042911	Methylene chloride	J (all detects) UJ (all non-detects)	P	Laboratory control samples (%R) (L)
280-15257-1	RD-104_042911_01 TB_RD-104_042911 PZ-158_042911_01 EB_PZ-158_042911 TB_PZ-158_042911 PZ-146_042911_01 EB_PZ-146_042911 TB-PZ-146_042911 PZ-152_042911_01 EB_PZ-152_042911 TB_PZ-152_042911	Vinyl acetate	J (all detects) UJ (all non-detects)	P	Laboratory control samples (RPD) (E)

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15257-1	RD-104_042911_01 TB_RD-104_042911 PZ-158_042911_01 EB_PZ-158_042911 TB_PZ-158_042911 PZ-146_042911_01 EB_PZ-146_042911 TB-PZ-146_042911 PZ-152_042911_01 EB_PZ-152_042911 TB_PZ-152_042911	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-15257-1

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-15257-1	TB_RD-104_042911	Trichloroethene	1.0U ug/L	A	B
280-15257-1	PZ-158_042911_01	Trichloroethene	1.0U ug/L	A	B
280-15257-1	EB_PZ-158_042911	Trichloroethene	1.0U ug/L	A	B
280-15257-1	TB_PZ-158_042911	Trichloroethene	1.0U ug/L	A	B
280-15257-1	EB_PZ-146_042911	Trichloroethene	1.0U ug/L	A	B
280-15257-1	TB-PZ-146_042911	Trichloroethene	1.0U ug/L	A	B
280-15257-1	PZ-152_042911_01	Trichloroethene	1.0U ug/L	A	B
280-15257-1	EB_PZ-152_042911	Trichloroethene	1.0U ug/L	A	B
280-15257-1	TB_PZ-152_042911	Trichloroethene	1.0U ug/L	A	B

Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-15257-1

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-15257-1	PZ-158_042911_01	Trichloroethene	1.0U ug/L	A	T,F
280-15257-1	EB_PZ-158_042911	Trichloroethene	1.0U ug/L	A	F
280-15257-1	EB_PZ-146_042911	Trichloroethene	1.0U ug/L	A	F

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-15257-1	PZ-152_042911_01	Trichloroethene	1.0U ug/L	A	T,F
280-15257-1	EB_PZ-152_042911	Trichloroethene	1.0U ug/L	A	F

LDC #: 25528D1a
 SDG #: 280-15257-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 6/02/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/29/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	SW	LCS 10
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	TB = 2, 5, 8, 11 EB = 4, 7, 10

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

* ND = No compounds detected
 R = Rinsate
 FB = Field blank

* FB = FB-041411-19 (280-14655-1)
 B = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	RD-104_042911_01	11	TB_PZ-152_042911	21	MB 280-65095/6	(FFAF, GGGG, II)
2	TB_RD-104_042911	12	PZ-158_042911_01MS	22	MB 280-67093/5	
3	PZ-158_042911_01	13	PZ-158_042911_01MSD	23		
4	EB_PZ-158_042911	14		24		
5	TB_PZ-158_042911	15		25		
6	PZ-146_042911_01	16		26		
7	EB_PZ-146_042911	17		27		
8	TB-PZ-146_042911	18		28		
9	PZ-152_042911_01	19		29		
10	EB_PZ-152_042911	20		30		

App IX, A, A = 1, 2
 Std Water = 3, 4, 5-11

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC. 1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl chloride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN. <i>Tetrahydrofuran</i>
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	Oooo.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dibromopropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropane	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBB. tert-Amyl methyl ether	VVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

VALIDATION FINDINGS WORKSHEET
Surrogate Spikes

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

N N/A Were all surrogate %R within QC limits?
 N N/A If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R out of outside of criteria?

#	Date	Sample ID	Surrogate	%Recovery (I.Limits)	Qualifications
		2	DCE	75 (80-120)	J/N/A (qual all except FFF, 666)
			BFB	85 (86-115)	
			DFM	80 (86-118)	
		4	DCE	78 (80-120)	
			BFB	85 (86-115)	
			DFM	83 (86-118)	(qual all except FFF, 666, II)
		5	BFB	85 (86-115)	
			DFM	85 (86-118)	
		5	DCE	122 (80-120)	J/N/A (qual FFF, 666, II)
		7	DCE	126 ()	
		8	BCE	126 87 ()	
		9	DCE	129 ()	
		10	DCE	124 ()	
		11	DCE	131 ()	

QC Limits (Water)
 85-120
 75-120
 70-120
 85-115

QC Limits (Soil)
 85-115
 85-120
 60-120
 75-125

SMC1 (TOL) = Toluene-d8
 SMC2 (BFB) = Bromofluorobenzene
 SMC3 (DCE) = 1,2-Dichloroethane-d4
 SMC4 (DFM) = Dibromofluoromethane

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 29, 2011

LDC Report Date: June 3, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15257-1

Sample Identification

RD-104_042911_01
TB_RD-104_042911
PZ-158_042911_01
EB_PZ-158_042911
TB_PZ-158_042911
PZ-146_042911_01
EB_PZ-146_042911
TB-PZ-146_042911
PZ-152_042911_01
EB_PZ-152_042911
TB_PZ-152_042911

Introduction

This data review covers 11 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-dioxane was found in the method blanks.

Samples TB_RD-104_042911, TB_PZ-158_042911, TB-PZ-146_042911 and TB_PZ-152_042911 were identified as trip blanks. No 1,4-dioxane was found in these blanks.

Samples EB_PZ-158_042911, EB_PZ-146_042911, and EB_PZ-152_042911 were identified as equipment blanks. No 1,4-dioxane was found in these blanks.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No 1,4-dioxane was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15257-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-15257-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15257-1	RD-104_042911_01 TB_RD-104_042911 PZ-158_042911_01 EB_PZ-158_042911 TB_PZ-158_042911 PZ-146_042911_01 EB_PZ-146_042911 TB_PZ-146_042911 PZ-152_042911_01 EB_PZ-152_042911 TB_PZ-152_042911	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-15257-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-15257-1**

No Sample Data Qualified in this SDG

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/29/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	UCS 10
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 2, 5, 8, 11 EB = 4, 7, 10

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

FB = FB-041411-19 (280-14655-1)
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	RD-104_042911_01	11	TB_PZ-152_042911	21	MB 280-66627/18	31
2	TB_RD-104_042911	12		22		32
3	PZ-158_042911_01	13		23		33
4	EB_PZ-158_042911	14		24		34
5	TB_PZ-158_042911	15		25		35
6	PZ-146_042911_01	16		26		36
7	EB_PZ-146_042911	17		27		37
8	TB-PZ-146_042911	18		28		38
9	PZ-152_042911_01	19		29		39
10	EB_PZ-152_042911	20		30		40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 29, 2011
LDC Report Date: June 3, 2011
Matrix: Water
Parameters: 1,2,3-Trichloropropane
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-15257-1/IUE0199

Sample Identification

RD-104_042911_01
TB_RD-104_042911
PZ-152_042911_01
EB_PZ-152_042911
TB_PZ-152_042911

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-Trichloropropane was found in the method blanks.

Sample TB_RD-104_042911 and TB_PZ-152_042911 were identified as a trip blanks. No 1,2,3-Trichloropropane was found in this blank.

Sample EB_PZ-152_042911 was identified as an equipment blank. No 1,2,3-Trichloropropane was found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No 1,2,3-Trichloropropane was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15257-1//UE0199	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011

1,2,3-Trichloropropane - Data Qualification Summary - SDG 280-15257-1/IUE0199

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15257-1/ IUE0199	RD-104_042911_01 TB_RD-104_042911 PZ-152_042911_01 EB_PZ-152_042911 TB_PZ-152_042911	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011

1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG 280-15257-1/IUE0199

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011

1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG 280-15257-1/IUE0199

No Sample Data Qualified in this SDG

METHOD: GC/MS 1,2,3-Trichloropropane (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/29/11</u>
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	A	<u>LCS</u>
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	<u>TB = 2, 5 EB = 4 FB = FB_041411-19</u>

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

(280-14655-1)

Validated Samples:

Water

1	RD-104_042911_01	11	<u>HE0514-BU1</u>	21	31
2	TB_RD-104_042911	12		22	32
3	PZ-152_042911_01	13		23	33
4	EB_PZ-152_042911	14		24	34
5	TB_PZ-152_042911	15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 29, 2011

LDC Report Date: June 3, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15257-1

Sample Identification

RD-104_042911_01
PZ-158_042911_01
EB_PZ-158_042911
PZ-146_042911_01
EB_PZ-146_042911
PZ-152_042911_01
EB_PZ-152_042911

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-65013/1-A	5/1/11	Diethylphthalate	1.86 ug/L	All samples in SDG 280-15257-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
RD-104_042911_01	Diethylphthalate	1.0 ug/L	10U ug/L
PZ-158_042911_01	Diethylphthalate	1.7 ug/L	10U ug/L
EB_PZ-158_042911	Diethylphthalate	0.66 ug/L	10U ug/L
PZ-146_042911_01	Diethylphthalate	1.7 ug/L	9.8U ug/L
EB_PZ-146_042911	Diethylphthalate	0.92 ug/L	9.5U ug/L

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
PZ-152_042911_01	Diethylphthalate	0.94 ug/L	10U ug/L

Samples EB_PZ-158_042911, EB_PZ-146_042911, and EB_PZ-152_042911 were identified as equipment blanks. No semivolatile contaminants were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-158_042911	4/29/11	Diethylphthalate	1.7 ug/L	PZ-158_042911_01
EB_PZ-146_042911	4/29/11	Diethylphthalate	0.92 ug/L	PZ-146_042911_01
EB_PZ-152_042911	4/29/11	Bis(2-ethylhexyl)phthalate	1.1 ug/L	PZ-152_042911_01

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No semivolatile contaminants were found in this blank.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-158_042911_01	Diethylphthalate	1.7 ug/L	10U ug/L
PZ-146_042911_01	Diethylphthalate	1.7 ug/L	9.8U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15257-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-15257-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15257-1	RD-104_042911_01 PZ-158_042911_01 EB_PZ-158_042911 PZ-146_042911_01 EB_PZ-146_042911 PZ-152_042911_01 EB_PZ-152_042911	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-15257-1**

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-15257-1	RD-104_042911_01	Diethylphthalate	10U ug/L	A	B
280-15257-1	PZ-158_042911_01	Diethylphthalate	10U ug/L	A	B
280-15257-1	EB_PZ-158_042911	Diethylphthalate	10U ug/L	A	B
280-15257-1	PZ-146_042911_01	Diethylphthalate	9.8U ug/L	A	B
280-15257-1	EB_PZ-146_042911	Diethylphthalate	9.5U ug/L	A	B
280-15257-1	PZ-152_042911_01	Diethylphthalate	10U ug/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles- Field Blank Data Qualification Summary - SDG 280-15257-1**

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-15257-1	PZ-158_042911_01	Diethylphthalate	10U ug/L	A	F
280-15257-1	PZ-146_042911_01	Diethylphthalate	9.8U ug/L	A	F

LDC #: 25528D2a

VALIDATION COMPLETENESS WORKSHEET

SDG #: 280-15257-1

Level V

Laboratory: Test America, Inc.

Date: 6/22/11

Page: 1 of 1

Reviewer: JVB

2nd Reviewer: [Signature]

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/29/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS 1b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	FB = 3, 5, 7 FB = FB_041411-19 (280-14655-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

water

1	RD-104_042911_01	11	MB 280-65013 / 1-A	21		31
2	PZ-158_042911_01	12		22		32
3	EB_PZ-158_042911	13		23		33
4	PZ-146_042911_01	14		24		34
5	EB_PZ-146_042911	15		25		35
6	PZ-152_042911_01	16		26		36
7	EB_PZ-152_042911	17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

8270c App IX = 1
8270 Full W = 2-7

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-dl-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes: * = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

Blanks

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- Y N N/A Was a method blank analyzed for each matrix?
- Y N N/A Was a method blank analyzed for each concentration preparation level?
- Y N N/A Was a method blank associated with every sample?
- Y N N/A Was the blank contaminated? If yes, please see qualification below.

Blank extraction date: 5/01/11 Blank analysis date: 5/05/11

Conc. units: ng/L Associated Samples: All

Conds: B

Compound	Blank ID	Sample Identification					
<u>MB</u>	<u>280-65012/A</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
<u>LL</u>	<u>1-86</u>	<u>1.0/104</u>	<u>1.7/104</u>	<u>0.66/104</u>	<u>1.7/104</u>	<u>0.92/104</u>	<u>6.94/104</u>

Blank extraction date: _____ Blank analysis date: _____
 Conc. units: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification					

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 29, 2011

LDC Report Date: June 3, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15257-1

Sample Identification

RD-104_042911_01
PZ-158_042911_01
EB_PZ-158_042911
PZ-146_042911_01
EB_PZ-146_042911

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Compound	Total Days From Sample Collection Until Extraction	Required Holding Time (in Days) From Sample Collection Until Extraction	Flag	A or P
PZ-146_042911_01	N-Nitrosodimethylamine	10	7	J (all detects) UJ (all non-detects)	P

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-nitrosodimethylamine was found in the method blanks.

Samples EB_PZ-158_042911 and EB_PZ-146_042911 were identified as equipment blanks. No N-nitrosodimethylamine was found in these blanks.

Samples FB_PZ-146_042911_19 (from SDG 280-15257-2) and FB_041411_19 (from SDG 14655-1) were identified as field blanks. No N-nitrosodimethylamine was found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15257-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples PZ-146_042911_01 and PZ-146_042911_36 (from SDG 280-15257-2) were identified as field duplicates. No N-nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	PZ-146_042911_01	PZ-146_042911_36			
N-nitrosodimethylamine	0.0065	0.0050U	26 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-15257-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15257-1	PZ-146_042911_01	N-Nitrosodimethylamine	J (all detects) UJ (all non-detects)	P	Technical holding time (H)
280-15257-1	RD-104_042911_01 PZ-158_042911_01 EB_PZ-158_042911 PZ-146_042911_01 EB_PZ-146_042911	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary – SDG 280-15257-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-15257-1**

No Sample Data Qualified in this SDG

LDC #: 25528D2b
 SDG #: 280-15257-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 6/02/11
 Page: 1 of 1
 Reviewer: *Me*
 2nd Reviewer: *[Signature]*

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: 4/29/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS 1b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D = 4 + PZ-146_042911_36 (280-15257-2)
XVII.	Field blanks	ND	EB = 3, 5 FB = FB-PZ-146_042911-19 ✓ FB = FB-041411-19 (280-14655-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	RD-104_042911_01	11	MB 280-65423/LA	21	31
2	PZ-158_042911_01	12	MB 280-66400/LA	22	32
3	EB_PZ-158_042911	13		23	33
4	PZ-146_042911_01	14		24	34
5	EB_PZ-146_042911	15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GCMS NDMA (EPA Method 1625M)

- Y N NA Were field duplicate pairs identified in this SDG?
- Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		RPD	Qualifications (Parent Only)
	PZ-146_042911_01	PZ-146_042911_36		
NDMA	0.0065	0.0050U	26	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 29, 2011

LDC Report Date: June 3, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15257-1

Sample Identification

PZ-146_042911_01
EB_PZ-146_042911
PZ-152_042911_01
EB_PZ-152_042911

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per a modification of EPA SW 846 Method 8270C using Selected Ion Monitoring (SIM) for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-65456/1-A	5/3/11	Bis(2-ethylhexyl)phthalate Butylbenzylphthalate Diethylphthalate Di-n-butylphthalate Di-n-octylphthalate	0.168 ug/L 0.112 ug/L 0.0242 ug/L 0.0125 ug/L 0.216 ug/L	All samples in SDG 280-15257-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
PZ-146_042911_01	Bis(2-ethylhexyl)phthalate Di-n-butylphthalate Di-n-octylphthalate	0.25 ug/L 0.045 ug/L 0.23 ug/L	9.9U ug/L 9.9U ug/L 9.9U ug/L
EB_PZ-146_042911	Bis(2-ethylhexyl)phthalate Butylbenzylphthalate Di-n-butylphthalate Di-n-octylphthalate	0.17 ug/L 0.12 ug/L 0.012 ug/L 0.20 ug/L	9.5U ug/L 9.5U ug/L 9.5U ug/L 9.5U ug/L

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
PZ-152_042911_01	Bis(2-ethylhexyl)phthalate Diethylphthalate Di-n-butylphthalate Di-n-octylphthalate	0.19 ug/L 0.15 ug/L 0.064 ug/L 0.20 ug/L	10U ug/L 10U ug/L 10U ug/L 10U ug/L
EB_PZ-152_042911	Bis(2-ethylhexyl)phthalate Butylbenzylphthalate Diethylphthalate Di-n-butylphthalate Di-n-octylphthalate	0.19 ug/L 0.12 ug/L 0.032 ug/L 0.020 ug/L 0.23 ug/L	10U ug/L 10U ug/L 10U ug/L 10U ug/L 10U ug/L

Samples EB_PZ-146_042911 and EB_PZ-152_042911 were identified as equipment blanks. No semivolatile contaminants were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-146_042911	4/29/11	Bis(2-ethylhexyl)phthalate Butylbenzylphthalate Di-n-butylphthalate Di-n-octylphthalate	0.17 ug/L 0.12 ug/L 0.012 ug/L 0.20 ug/L	PZ-146_042911_01
EB_PZ-152_042911	4/29/11	Bis(2-ethylhexyl)phthalate Butylbenzylphthalate Diethylphthalate Di-n-butylphthalate Di-n-octylphthalate Naphthalene	0.19 ug/L 0.12 ug/L 0.032 ug/L 0.020 ug/L 0.23 ug/L 0.0068 ug/L	PZ-152_042911_01

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No semivolatile contaminants were found in this blank.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-146_042911_01	Bis(2-ethylhexyl)phthalate Di-n-butylphthalate Di-n-octylphthalate	0.25 ug/L 0.045 ug/L 0.23 ug/L	9.9U ug/L 9.9U ug/L 9.9U ug/L
PZ-152_042911_01	Bis(2-ethylhexyl)phthalate Diethylphthalate Di-n-butylphthalate Di-n-octylphthalate	0.19 ug/L 0.15 ug/L 0.064 ug/L 0.20 ug/L	10U ug/L 10U ug/L 10U ug/L 10U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15257-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles- Data Qualification Summary - SDG 280-15257-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15257-1	PZ-146_042911_01 EB_PZ-146_042911 PZ-152_042911_01 EB_PZ-152_042911	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles- Laboratory Blank Data Qualification Summary - SDG 280-15257-1**

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-15257-1	PZ-146_042911_01	Bis(2-ethylhexyl)phthalate Di-n-butylphthalate Di-n-octylphthalate	9.9U ug/L 9.9U ug/L 9.9U ug/L	A	B
280-15257-1	EB_PZ-146_042911	Bis(2-ethylhexyl)phthalate Butylbenzylphthalate Di-n-butylphthalate Di-n-octylphthalate	9.5U ug/L 9.5U ug/L 9.5U ug/L 9.5U ug/L	A	B
280-15257-1	PZ-152_042911_01	Bis(2-ethylhexyl)phthalate Diethylphthalate Di-n-butylphthalate Di-n-octylphthalate	10U ug/L 10U ug/L 10U ug/L 10U ug/L	A	B
280-15257-1	EB_PZ-152_042911	Bis(2-ethylhexyl)phthalate Butylbenzylphthalate Diethylphthalate Di-n-butylphthalate Di-n-octylphthalate	10U ug/L 10U ug/L 10U ug/L 10U ug/L 10U ug/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles- Field Blank Data Qualification Summary - SDG 280-15257-1**

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-15257-1	PZ-146_042911_01	Bis(2-ethylhexyl)phthalate Di-n-butylphthalate Di-n-octylphthalate	9.9U ug/L 9.9U ug/L 9.9U ug/L	A	F
280-15257-1	PZ-152_042911_01	Bis(2-ethylhexyl)phthalate Diethylphthalate Di-n-butylphthalate Di-n-octylphthalate	10U ug/L 10U ug/L 10U ug/L 10U ug/L	A	F

LDC #: 25528D2c

VALIDATION COMPLETENESS WORKSHEET

Date: 6/22/11

SDG #: 280-15257-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: *[Signature]*

2nd Reviewer: *[Signature]*

Semi-volatiles
METHOD: GC/MS Polynuclear Aromatic Hydrocarbons (EPA SW846 Method 8270C-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/29/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS 1b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	EB = 2, 4 FB = FB_041411_19 (280-14655-1)

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: *Water*

1	PZ-146_042911_01	11	<i>MB 280-65456/1-A</i>	21		31	
2	EB_PZ-146_042911	12		22		32	
3	PZ-152_042911_01	13		23		33	
4	EB_PZ-152_042911	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis(2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes: * = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 29, 2011

LDC Report Date: June 3, 2011

Matrix: Water

Parameters: Pentachlorophenol

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15257-1

Sample Identification

RD-104_042911_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Pentachlorophenol.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No pentachlorophenol was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15257-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Data Qualification Summary - SDG 280-15257-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15257-1	RD-104_042911_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Laboratory Blank Data Qualification Summary - SDG 280-15257-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Pentachlorophenol - Field Blank Data Qualification Summary - SDG 280-15257-1**

No Sample Data Qualified in this SDG

LDC #: 25528D2d

VALIDATION COMPLETENESS WORKSHEET

Date: 6/02/11

SDG #: 280-15257-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JVB
2nd Reviewer: [Signature]

METHOD: GC/MS Pentachlorophenol (EPA SW846 Method 8270C-D)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/29/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS 1b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	A	

Note: A = Acceptable
 ND = No compounds detected
 D = Duplicate
 N = Not provided/applicable
 R = Rinsate
 TB = Trip blank
 SW = See worksheet
 FB = Field blank
 EB = Equipment blank

Validated Samples: WMA et

1	RD-104_042911_01	11	MB 280-65021 / 1-A	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 29, 2011

LDC Report Date: June 3, 2011

Matrix: Water

Parameters: Chlorinated Pesticides

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15257-1

Sample Identification

RD-104_042911_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Column	Surrogate	%R (Limits)	Compound	Flag	A or P
MB 280-65235/1-A	Col 1	Tetrachloro-m-xylene	57 (60-140)	All TCL compounds	J (all detects) UJ (all non-detects)	P
MB 280-65235/1-A	Col 2	Tetrachloro-m-xylene	57 (60-140)	All TCL compounds	J (all detects) UJ (all non-detects)	P

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

All target compound identifications were within validation criteria.

XIII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15257-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Data Qualification Summary - SDG 280-15257-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15257-1	RD-104_042911_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 280-15257-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Field Blank Data Qualification Summary - SDG 280-15257-1**

No Sample Data Qualified in this SDG

LDC #: 25528D3a

VALIDATION COMPLETENESS WORKSHEET

Date: 6/02/11

SDG #: 280-15257-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: *3/4*2nd Reviewer: *Q*

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/29/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS 10
IX.	Regional quality assurance and quality control	N	
X.	Florisil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation and reported CRQLs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates	N	
XVI.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	RD-104_042911_01	11	MB 280-65235/1-A	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Surrogate Spikes

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Please see qualification below for all questions answered "N". Not applicable questions are identified as "N/A".
 Y N N/A Were surrogates spiked into all samples, standards and blanks?
 Y N N/A Did all surrogate percent recoveries (%R) meet the QC limits?

#	Date	Sample ID	Column	Surrogate Compound	%R (Limits)	Qualifications
		MB 280-65225 / A	Col. 1	A	57 (60-140)	5/45 P (S)
			Col. 2	↓	57 ()	↓
					()	
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Letter Designation	Surrogate Compound	Recovery QC Limits (Soil)	Recovery QC Limits (Water)	Comments
A	Tetrachoro-m-xylene			
B	Decachlorobiphenyl			

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 29, 2011
LDC Report Date: June 3, 2011
Matrix: Water
Parameters: Polychlorinated Biphenyls
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-15257-1

Sample Identification

RD-104_042911_01
PZ-158_042911_01
EB_PZ-158_042911
PZ-146_042911_01
EB_PZ-146_042911
PZ-152_042911_01
EB_PZ-152_042911

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyls were found in the method blanks.

Samples EB_PZ-158_042911, EB_PZ-146_042911, and EB_PZ-152_042911 were identified as equipment blanks. No polychlorinated biphenyls were found in these blanks.

Sample FB_041411_19 (280-14655-1) was identified as a field blank. No polychlorinated biphenyls were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

Raw data were not reviewed for this SDG.

XIII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15257-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Data Qualification Summary - SDG 280-15257-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15257-1	RD-104_042911_01 PZ-158_042911_01 EB_PZ-158_042911 PZ-146_042911_01 EB_PZ-146_042911 PZ-152_042911_01 EB_PZ-152_042911	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 280-15257-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG 280-15257-1**

No Sample Data Qualified in this SDG

LDC #: 25528D3b
 SDG #: 280-15257-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 6/02/14
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/29/14
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS 1b
IX.	Regional quality assurance and quality control	N	
X.	Florisil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation and reported CRQLs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates	N	
XVI.	Field blanks	ND	EB = 3, 5, 7 FB = FB_041911-19 (280-14655-1)

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

1	RD-104_042911_01	11	MB 280-65235/A	21		31	
2	PZ-158_042911_01	12		22		32	
3	EB_PZ-158_042911	13		23		33	
4	PZ-146_042911_01	14		24		34	
5	EB_PZ-146_042911	15		25		35	
6	PZ-152_042911_01	16		26		36	
7	EB_PZ-152_042911	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 29, 2011
LDC Report Date: June 2, 2011
Matrix: Water
Parameters: Metals
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-15257-1

Sample Identification

RD-104_042911_01
RD-104_042911_01F
PZ-158_042911_01F
EB_PZ-158_042911F
PZ-146_042911_01F
EB_PZ-146_042911F
PZ-152_042911_01F
EB_PZ-152_042911F
RD-104_042911_01MS
RD-104_042911_01MSD
RD-104_042911_01FMS
RD-104_042911_01FMMSD

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 12 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B, 6020, and 7000 for Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No metal contaminants were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Sodium	0.403 mg/L	RD-104_042911_01F PZ-158_042911_01F EB_PZ-158_042911F PZ-146_042911_01F EB_PZ-146_042911F PZ-152_042911_01F EB_PZ-152_042911F
PB (prep blank)	Boron	0.00525 mg/L	PZ-158_042911_01F EB_PZ-158_042911F PZ-146_042911_01F EB_PZ-146_042911F PZ-152_042911_01F EB_PZ-152_042911F
PB (prep blank)	Manganese Sodium Thallium Tin	0.000510 mg/L 0.175 mg/L 0.0000211 mg/L 0.000874 mg/L	RD-104_042911_01

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
RD-104_042911_01	Thallium	0.000051 mg/L	0.000051U mg/L
EB_PZ-158_042911F	Sodium	0.48 mg/L	0.48U mg/L
EB_PZ-146_042911F	Sodium	0.56 mg/L	0.56U mg/L
EB_PZ-152_042911F	Sodium	0.51 mg/L	0.51U mg/L

Samples EB_PZ-158_042911F, EB_PZ-146_042911F, and EB_PZ-152_042911F were identified as equipment blanks. No metal contaminants were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_PZ-158_042911F	4/29/11	Calcium Sodium	0.064 mg/L 0.48 mg/L	PZ-158_042911_01F
EB_PZ-146_042911F	4/29/11	Calcium Magnesium Sodium	0.096 mg/L 0.016 mg/L 0.56 mg/L	PZ-146_042911_01F
EB_PZ-152_042911F	4/29/11	Calcium Sodium	0.087 mg/L 0.51 mg/L	PZ-152_042911_01F

Sample FB_041411_19F (from SDG 280-14655-1) was identified as a field blank. No metal contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_041411_19F	4/14/11	Iron Manganese Sodium	0.082 mg/L 0.0012 mg/L 0.29 mg/L	PZ-158_042911_01F PZ-146_042911_01F PZ-152_042911_01F

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
PZ-158_042911_01F	Manganese	0.0044 mg/L	0.0044U mg/L

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution data were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-15257-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Data Qualification Summary - SDG 280-15257-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-15257-1	RD-104_042911_01 RD-104_042911_01F PZ-158_042911_01F EB_PZ-158_042911F PZ-146_042911_01F EB_PZ-146_042911F PZ-152_042911_01F EB_PZ-152_042911F	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Laboratory Blank Data Qualification Summary - SDG 280-15257-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-15257-1	RD-104_042911_01	Thallium	0.000051U mg/L	A	B
280-15257-1	EB_PZ-158_042911F	Sodium	0.48U mg/L	A	B
280-15257-1	EB_PZ-146_042911F	Sodium	0.56U mg/L	A	B
280-15257-1	EB_PZ-152_042911F	Sodium	0.51U mg/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Field Blank Data Qualification Summary - SDG 280-15257-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-15257-1	PZ-158_042911_01F	Manganese	0.0044U mg/L	A	F

LDC #: 25528D4

VALIDATION COMPLETENESS WORKSHEET

Date: 6-1-11

SDG #: 280-15257-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: MG

2nd Reviewer: 

METHOD: Metals (EPA SW 846 Method 6010B/6020/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4-29-11
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	A	MS/MSD
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	A	LCS/LCSD
IX.	Internal Standard (ICP-MS)	N	not reviewed
X.	Furnace Atomic Absorption QC	N	not utilized
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	
XIV.	Field Duplicates	N	FB = FB_041411_19F (SDG: 280-14655-1)
XV.	Field Blanks	SW	EB = 4, 6, 8

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

all water

1 [†]	RD-104_042911_01	11	RD-104_042911_01FMS	21		31	
2	RD-104_042911_01F	12	RD-104_042911_01FMSD	22		32	
3	PZ-158_042911_01F	13		23		33	
4	EB_PZ-158_042911F	14		24		34	
5	PZ-146_042911_01F	15		25		35	
6	EB_PZ-146_042911F	16		26		36	
7	PZ-152_042911_01F	17		27		37	
8	EB_PZ-152_042911F	18		28		38	
9 [†]	RD-104_042911_01MS	19		29 [†]	PBW1	39	
10 [†]	RD-104_042911_01MSD	20		30 [‡]	PBW2	40	

Notes: Samples appended with "F" were analyzed for dissolved metals

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
 Sample Concentration units, unless otherwise noted: mg/L

Soil preparation factor applied: NA
 Associated Samples: all dissolved

Qual: U (B)

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	4	6	8			
Na		0.403		2.015	0.48	0.56	0.51			

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
 Sample Concentration units, unless otherwise noted: mg/L

Soil preparation factor applied: NA
 Associated Samples: 3-8 (>5x or ND)

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	No Qual's.					
B		0.00525		0.02625						

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
 Sample Concentration units, unless otherwise noted: mg/L

Soil preparation factor applied: NA
 Associated Samples: all total

Qual: U (B)

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	1					
Mn		0.000510		0.00255						
Na		0.175		0.875						
Tl		0.0000211		0.0001055	0.000051					
Sn		0.000874		0.00437						

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
 Note: a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

N/A Were field blanks identified in this SDG?
 N/A Were target analytes detected in the field blanks?

Blank units: mg/L Associated sample units: mg/L
Sampling date: 4/29/11 Soil factor applied: NA

Field blank type: (circle one) Field Blank / Rinsate ~~Other~~ EB Associated Samples: 3 (>5x)

Analyte	Blank ID	Action Level	No Qual's	Sample Identification				
	4	0.32						
Ca	0.064	0.32						
Na	0.48	2.4						

Blank units: mg/L Associated sample units: mg/L
Sampling date: 4/29/11 Soil factor applied: NA

Field blank type: (circle one) Field Blank / Rinsate ~~Other~~ EB Associated Samples: 5 (>5x)

Analyte	Blank ID	Action Level	No Qual's	Sample Identification				
	6	0.48						
Ca	0.096	0.48						
Mg	0.016	0.08						
Na	0.56	2.8						

Blank units: mg/L Associated sample units: mg/L
Sampling date: 4/29/11 Soil factor applied: NA

Field blank type: (circle one) Field Blank / Rinsate ~~Other~~ EB Associated Samples: 7 (>5x)

Analyte	Blank ID	Action Level	No Qual's	Sample Identification				
	8	0.435						
Ca	0.087	0.435						
Na	0.51	2.55						

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

Y Were field blanks identified in this SDG?

Y Were target analytes detected in the field blanks?

Blank units: mg/L Associated sample units: mg/L

Sampling date: 4/14/11 Soil factor applied: NA

Field blank type: (circle one) Field Blank / Rinsate / Other: _____

Associated Samples: 3, 5, 7 (Not analyzed for Sn) Qual: U (F)

Sample Identification			
Analyte	Blank ID	Action Level	
	FB_041411_19F	3	
Fe	0.082	0.41	
Mn	0.0012	0.006	0.0044
Na	0.29	1.45	
Sn	0.0017	0.00005	

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:

Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 29, 2011

LDC Report Date: June 3, 2011

Matrix: Water

Parameters: Herbicides

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15257-1

Sample Identification

RD-104_042911_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8151A for Herbicides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No herbicide contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
MB 280-65283/1-A	5/3/11	2,4-D	0.372 ug/L	All samples in SDG 280-15257-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/(Matrix Spike) Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15257-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Data Qualification Summary - SDG 280-15257-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15257-1	RD-104_042911_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Laboratory Blank Data Qualification Summary - SDG 280-15257-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Field Blank Data Qualification Summary - SDG 280-15257-1**

No Sample Data Qualified in this SDG

LDC #: 25528D5

VALIDATION COMPLETENESS WORKSHEET

Date: 6/02/11

SDG #: 280-15257-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JG

2nd Reviewer: [Signature]

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/29/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	SW	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client spec
VII.	Laboratory control samples	A	LCS 10
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinse
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	RD-104_042911_01	11	MB 280-05283/1-A	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 29, 2011
LDC Report Date: June 2, 2011
Matrix: Water
Parameters: Wet Chemistry
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-15257-1

Sample Identification

RD-104_042911_01
PZ-146_042911_01
EB_PZ-146_042911
RD-104_042911_01MS
RD-104_042911_01MSD
RD-104_042911_01DUP
PZ-146_042911_01MS
PZ-146_042911_01MSD
PZ-146_042911_01DUP

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Standard Method 2320B for Alkalinity, EPA Method 350.1 for Ammonia as Nitrogen, EPA Method 300.0 for Bromide, Chloride, Fluoride, Nitrate, Nitrite, Orthophosphate, and Sulfate, Standard Method 2510B for Conductivity, EPA SW 846 Method 9012A for Cyanide, EPA SW 846 Method 7196A for Hexavalent Chromium and Dissolved Hexavalent Chromium, EPA Method 314.0 for Perchlorate, EPA SW 846 Method 9040B for pH, Standard Method 4500-S2-D for Sulfide, Standard Method 2540C for Total Dissolved Solids, and EPA Method 180.1 for Turbidity.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

Raw data were not reviewed for this SDG. The review was based on QC data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
PZ-146_042911_01 EB_PZ-146_042911	Hexavalent chromium	26.75 hours	24 hours	J (all detects)	P
PZ-146_042911_01MS PZ-146_042911_01MSD PZ-146_042911_01DUP	Dissolved hexavalent chromium	26.75 hours	24 hours	UJ (all non-detects)	
				J (all detects)	
				UJ (all non-detects)	

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
PB (prep blank)	Cyanide	0.00435 mg/L	RD-104_042911_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
RD-104_042911_01	Cyanide	0.0050 mg/L	0.0050U mg/L

Sample EB_PZ-146_042911 was identified as an equipment blank. No contaminant concentrations were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_PZ-146_042911	4/29/11	Sulfate	0.56 mg/L	PZ-146_042911_01

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No contaminant concentrations were found in this blank.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
PZ-146_042911_01MS/MSD (PZ-146_042911_01 EB_PZ-146_042911)	Hexavalent chromium	70 (85-115)	74 (85-115)	-	J (all detects)	A
	Dissolved hexavalent chromium	66 (85-115)	69 (85-115)	-	UJ (all non-detects) J (all detects) UJ (all non-detects)	

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-15257-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-15257-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-15257-1	PZ-146_042911_01 EB_PZ-146_042911	Hexavalent chromium Dissolved hexavalent chromium	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-15257-1	PZ-146_042911_01 EB_PZ-146_042911	Hexavalent chromium Dissolved hexavalent chromium	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
280-15257-1	RD-104_042911_01 PZ-146_042911_01 EB_PZ-146_042911	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-15257-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-15257-1	RD-104_042911_01	Cyanide	0.0050U mg/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-15257-1**

No Sample Data Qualified in this SDG

LDC #: 25528D6
 SDG #: 280-15257-1
 Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 6-1-11
 Page: 1 of 1
 Reviewer: MG
 2nd Reviewer: [Signature]

METHOD: (Analyte) Alkalinity (SM2320B), Ammonia-N (EPA Method 350.1), Bromide, Chloride, Fluoride, Nitrate, Nitrite, Orthophosphate, Sulfate (EPA Method 300.0), Conductivity (SM2510B), Cyanide (EPA SW846 Method 9012A), Hexavalent Chromium & Dissolved Hexavalent Chromium (EPA SW846 Method 7196A), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B), Sulfide (SM4500-S2 D), TDS (SM2540C), Turbidity (EPA Method 180.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: 4-29-11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	SW	
IV	Matrix Spike/Matrix Spike Duplicates	SW	MS/MSD
V	Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS/LCSD
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	FB = FB-041411-19* (SDG: 280-14655-1)
X	Field blanks	SW	EB = 3

Note: A = Acceptable * = ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:
all water

1	RD-104_042911_01	11		21		31	
2	PZ-146_042911_01	12		22		32	
3	EB_PZ-146_042911	13		23		33	
4	RD-104_042911_01MS	14		24		34	
5	RD-104_042911_01MSD	15		25		35	
6	RD-104_042911_01DUP	16		26		36	
7	PZ-146_042911_01MS	17		27		37	
8	PZ-146_042911_01MSD	18		28		38	
9	PZ-146_042911_01DUP	19		29		39	
10		20	PBW	30		40	

Notes: _____

VALIDATION FINDINGS WORKSHEET

Blanks

METHOD: Inorganics, Method See Cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Were blank analyses performed as required? If no, please see qualifications below.

(Y) N N/A Were any activities in the blanks greater than the minimum detectable activity? If yes, please see qualifications below.

Conc. units: mg/L **Associated Samples:** 1 **Qual:** U (B)

Analyte	Blank ID	Blank ID	Blank Action Limit
	PB	ICB/CCB (mg/L)	
CN	0.00435		0.02175
			0.0050

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 All contaminants within five times the method blank concentration were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET

Field Blanks

METHOD: Inorganics, EPA Method See Cover
 Y N N/A Were field blanks identified in this SDG?
 Y N N/A Were target analytes detected in the field blanks?
Blank units: Associated sample units: NA
Sampling date: 4/29/11 Soil factor applied: NA
Field blank type: (circle one) Field Blank / Rinsate / Other EB Associated Samples: 2 (>5x)

Analyte	Blank ID	Action Limit	Sample Identification
	3	No Qual.	
SO4	0.56	2.8	

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 29, 2011

LDC Report Date: June 3, 2011

Matrix: Water

Parameters: Diesel Range Organics

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15257-1

Sample Identification

RD-104_042911_01
PZ-158_042911_01
EB_PZ-158_042911
PZ-146_042911_01
EB_PZ-146_042911
PZ-152_042911_01
EB_PZ-152_042911

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Diesel Range Organics.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No diesel range organic contaminants were found in the method blanks.

Samples EB_PZ-158_042911, EB_PZ-146_042911, and EB_PZ-152_042911 were identified as equipment blanks. No diesel range organic contaminants were found in these blanks.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No diesel range organic contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15257-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Data Qualification Summary - SDG 280-15257-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15257-1	RD-104_042911_01 PZ-158_042911_01 EB_PZ-158_042911 PZ-146_042911_01 EB_PZ-146_042911 PZ-152_042911_01 EB_PZ-152_042911	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Laboratory Blank Data Qualification Summary - SDG 280-15257-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Field Blank Data Qualification Summary - SDG 280-15257-1**

No Sample Data Qualified in this SDG

LDC #: 25528D8
 SDG #: 280-15257-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 6/02/11

Page: 1 of 1

Reviewer: MB

2nd Reviewer: [Signature]

8015 \$

METHOD: GC Diesel Range Organics (Oklahoma Department of Environmental Quality)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/29/11
II	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client spec
VII.	Laboratory control samples	A	UCS 10
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	EB = 3, 5, 7 FB = FB-041411-19 (280-14655-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

1	RD-104_042911_01	11	MB 280-65238/1-A	21		31
2	PZ-158_042911_01	12		22		32
3	EB_PZ-158_042911	13		23		33
4	PZ-146_042911_01	14		24		34
5	EB_PZ-146_042911	15		25		35
6	PZ-152_042911_01	16		26		36
7	EB_PZ-152_042911	17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 29, 2011
LDC Report Date: June 3, 2011
Matrix: Water
Parameters: 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-15257-1

Sample Identification

RD-104_042911_01
TB_RD-104_042911

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 504.1 for 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in the method blanks.

Sample TB_RD-104_042911 was identified as a trip blank. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15257-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Data Qualification Summary -
 SDG 280-15257-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15257-1	RD-104_042911_01 TB_RD-104_042911	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Laboratory Blank Data
 Qualification Summary - SDG 280-15257-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Field Blank Data Qualification
 Summary - SDG 280-15257-1**

No Sample Data Qualified in this SDG

LDC #: 25528D10

VALIDATION COMPLETENESS WORKSHEET

SDG #: 280-15257-1

Level V

Laboratory: Test America, Inc.

Date: 6/02/11

Page: 1 of 1

Reviewer: JG

2nd Reviewer: [Signature]

METHOD: GC 1,2-Dibromomethane & 1,2-Dibromo-3-chloropropane (EPA Method 504.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/29/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	LCS 1b
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	TB = 2

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	RD-104_042911_01	11	MB 280-65295/4-A	21		31	
2	TB RD-104_042911	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 29, 2011

LDC Report Date: June 3, 2011

Matrix: Water

Parameters: Organophosphorus Pesticides

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15257-1

Sample Identification

RD-104_042911_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8141A for Organophosphorus Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No organophosphorus pesticide contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15257-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Data Qualification Summary - SDG 280-15257-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15257-1	RD-104_042911_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Laboratory Blank Data Qualification Summary - SDG 280-15257-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Field Blank Data Qualification Summary - SDG 280-15257-1**

No Sample Data Qualified in this SDG

LDC #: 25528D17

VALIDATION COMPLETENESS WORKSHEET

Date: 6/02/11

SDG #: 280-15257-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: *[Signature]*
2nd Reviewer: *[Signature]*

METHOD: GC Organophosphorus Pesticides (EPA SW 846 Method 8141A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/29/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client spec
VII.	Laboratory control samples	A	LCS / D
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: *NRAC*

1	RD-104_042911_01	11	MB 280 - 65 220 / 1-A	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 29, 2011

LDC Report Date: June 3, 2011

Matrix: Water

Parameters: Hexachlorophene

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15257-1

Sample Identification

RD-104_042911_01
RD-104_042911_01MS
RD-104_042911_01MSD

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8321A for Hexachlorophene.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No hexachlorophene was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15257-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Data Qualification Summary - SDG 280-15257-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15257-1	RD-104_042911_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Laboratory Blank Data Qualification Summary - SDG 280-15257-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Field Blank Data Qualification Summary - SDG 280-15257-1**

No Sample Data Qualified in this SDG

LDC #: 25528D44
 SDG #: 280-15257-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 6/02/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: LC/MS Hexachlorophene (EPA SW 846 Method 8321A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/29/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: Water

1	RD-104_042911_01	11	MB 280-65562/10	21	31
2	RD-104_042911_01MS	12		22	32
3	RD-104_042911_01MSD	13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 29, 2011

LDC Report Date: June 3, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15257-1/A1D300419

Sample Identification

RD-104_042911_01
PZ-146_042911_01
EB_PZ-146_042911
RD-104_042911_01MS
RD-104_042911_01MSD

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

Sample EB_PZ-146_042911 was identified as an equipment blank. No formaldehyde was found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No formaldehyde was found in this blank.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15257-1/A1D300419	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Data Qualification Summary - SDG 280-15257-1/A1D300419**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15011-1/ A1D260505	RD-104_042911_01 PZ-146_042911_01 EB_PZ-146_042911	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-15257-1/A1D300419**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Field Blank Data Qualification Summary - SDG 280-15257-1/A1D300419**

No Sample Data Qualified in this SDG

LDC #: 25528D71 **VALIDATION COMPLETENESS WORKSHEET**

SDG #: 280-15257-1/A1D300419

Level V

Laboratory: Test America, Inc.

Date: 6/02/11

Page: 1 of 1

Reviewer: JLG

2nd Reviewer: [Signature]

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/29/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	A	
VII.	Laboratory control samples	A	LCS
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	EB = 3 FB = FB_041411-19 (280-14655-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

1	RD-104_042911_01	11	11 22090 - Blk	21		31
2	PZ-146_042911_01	12		22		32
3	EB_PZ-146_042911	13		23		33
4	RD-104_042911_01MS	14		24		34
5	RD-104_042911_01MSD	15		25		35
6		16		26		36
7		17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 29, 2011

LDC Report Date: June 3, 2011

Matrix: Water

Parameters: Hydrazines

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15257-1

Sample Identification

RD-104_042911_01
PZ-158_042911_01
EB_PZ-158_042911
RD-104_042911_01MS
RD-104_042911_01MSD

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DVWC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazine contaminants were found in the method blanks.

Sample EB_PZ-158_042911 was identified as an equipment blank. No hydrazine contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No hydrazine contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15257-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-15257-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15257-1	RD-104_042911_01 PZ-158_042911_01 EB_PZ-158_042911	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-15257-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-15257-1**

No Sample Data Qualified in this SDG

LDC #: 25528D76

VALIDATION COMPLETENESS WORKSHEET

Date: 6/22/11

SDG #: 280-15257-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: *JL*

2nd Reviewer: *[Signature]*

METHOD: HPLC Hydrazines (Method DVWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/29/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	A	
VII.	Laboratory control samples	A	LCS 10
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	MB	EB = 3 FB = FB-041411-19 (280-14655-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

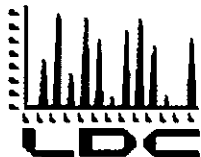
ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: *WATC*

1	RD-104_042911_01	11	<i>MB 280-65479/25</i>	21		31	
2	PZ-158_042911_01	12		22		32	
3	EB_PZ-158_042911	13		23		33	
4	RD-104_042911_01MS	14		24		34	
5	RD-104_042911_01MSD	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

June 16, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

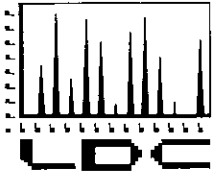
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 24, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25528:

<u>SDG #</u>	<u>Fraction</u>
280-15069-1/IUD2837/ A1D270448	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Pentachlorophenol, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane, Organophosphorus Pesticides, Hexachlorophene, Formaldehyde, Hydrazine
280-15126-1/IUD2827/ A1D280509	
280-15184-1/IUD2933/ A1D290602	
280-15257-1/IUE0199/ A1D300419	
280-15257-2	N-Nitrosodimethylamine
IUD2042	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Hexachlorophene, Herbicides, Wet Chemistry TPH as Extractables, 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane, Organophosphorus Pesticides, Dioxins/Dibenzofurans, Formaldehyde, Hydrazine, Perchlorate
IUD2221	Volatiles, 1,4-Dioxane, Semivolatiles, N-Nitrosodimethylamine, Polychlorinated Biphenyls, Dissolved Metals, Wet Chemistry, TPH as Extractables, Dioxins/Dibenzofurans, Formaldehyde, Hydrazine

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009



- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV LDC #25528 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane (8260B-S)		1,2,3-TCP (524.2)		SVOA (8270C-SIM)		SVOA (8270C-LL)		PCP (8270C-LL)		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (OK-DEQ)		EDB (504.1)		Formaldehyde (8315)		Hexachlorophene (8321A)		OPHS Pest. (8141A)		Herbs (8151A)					
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S		
Matrix: Water/Soil																																									
A	280-15069-1/ IUD2837/ A1D270448	05/24/11	06/15/11	11	0	10	0	2	0	7	0	2	0	1	0	7	0	1	0	3	0	3	0	3	0	5	0	4	0	2	0	7	0	1	0	1	0	1	0	1	0
B	280-15126-1/ IUD2827/ A1D280509	05/24/11	06/15/11	6	0	6	0	4	0	3	0	3	0	3	0	3	0	3	0	3	0	3	0	3	0	3	0	3	0	6	0	3	0	3	0	3	0	3	0	3	0
C	280-15184-1/ IUD2933/ A1D290602	05/24/11	06/15/11	9	0	9	0	2	0	6	0	5	0	1	0	6	0	1	0	6	0	6	0	1	0	6	0	6	0	2	0	6	0	1	0	1	0	1	0	1	0
D	280-15257-1/ IUE0199/ A1D300419	05/24/11	06/15/11	11	0	11	0	5	0	7	0	4	0	1	0	5	0	1	0	7	0	7	0	1	0	7	0	7	0	2	0	3	0	1	0	1	0	1	0	1	0
E	280-15257-2	05/24/11	06/15/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
F	IUD2042	05/24/11	06/15/11	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0
G	IUD2221	05/24/11	06/15/11	1	0	1	0	-	-	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0
Total	T/PG			39	0	38	0	16	0	26	0	12	0	6	0	25	0	7	0	21	0	9	0	23	0	22	0	13	0	21	0	7	0	7	0	7	0	7	0	7	0

Client Select IV LDC #25528 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	Dioxins (8290)		CLO ₄ (6860)		1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydrazine (DVWC)		Alk. (2320B)		NH ₃ -N (350.1)		Cl SO ₄ (300.0)		F NO ₃ (300.0)		Br NO ₂ -N O-PO ₄		Cr(VI) & Diss. Cr(VI)		CN- (9012A)		Cond. (2510B)		CLO ₄ (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)					
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S		
Matrix: Water/Soil																																									
A	280-15069-1	05/24/11	06/15/11	-	-	-	-	5	0	5	0	5	0	2	0	5	0	4	0	7	0	2	0	2	0	2	0	1	0	2	0	5	0	5	0	2	0	2	0		
B	280-15126-1	05/24/11	06/15/11	-	-	-	-	3	0	2	0	2	0	1	0	3	0	1	0	3	0	-	-	-	-	-	-	3	0	1	0	3	0	3	0	3	0	1	0	1	0
C	280-15184-1	05/24/11	06/15/11	-	-	-	-	2	0	2	0	2	0	1	0	2	0	6	0	6	0	5	0	4	0	4	0	1	0	1	0	2	0	2	0	2	0	1	0	1	0
D	280-15257-1	05/24/11	06/15/11	-	-	-	-	1	0	-	-	2	0	1	0	1	0	3	0	3	0	2	0	2	0	2	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0
F	IUD2042/HAL74/ G1D220529/ 1D22017	05/24/11	06/15/11	1	0	1	0	1	0	1	0	1	0	-	-	1	0	-	-	1	0	1	0	-	-	-	1	0	-	-	1	0	1	0	1	0	1	0	-	-	
G	IUD2221/ HAL74/ G1D260546	05/24/11	06/15/11	1	0	-	-	1	0	1	0	1	0	-	-	-	-	1	0	1	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total	T/PG			2	0	1	0	13	0	11	0	13	0	5	0	12	0	15	0	21	0	10	0	8	0	7	0	5	0	12	0	12	0	12	0	5	0	5	0		

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 29, 2011

LDC Report Date: June 3, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15257-2

Sample Identification

PZ-146_042911_36

FB_PZ-146_042911_19

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-nitrosodimethylamine was found in the method blanks.

Sample EB_PZ-146_042911 (from SDG 280-15257-1) was identified as an equipment blank. No N-nitrosodimethylamine was found in this blank.

Sample FB_PZ-146_042911_19 and FB_041411_19 (from SDG 280-14655-1) were identified as a field blanks. No N-nitrosodimethylamine was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15257-2	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples PZ-146_042911_36 and PZ-146_042911_01 (from SDG 280-15257-1) were identified as field duplicates. No N-nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	PZ-146_042911_01	PZ-146_042911_36			
N-nitrosodimethylamine	0.0065	0.0050U	26 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 2nd Qtr, 2011

N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-15257-2

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15257-2	PZ-146_042911_36 FB_PZ-146_042911_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011

N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary – SDG 280-15257-2

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011

N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-15257-2

No Sample Data Qualified in this SDG

LDC #: 25528E2b

VALIDATION COMPLETENESS WORKSHEET

Date: 6/29/11

SDG #: 280-15257-2

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: *JG*
2nd Reviewer: *JG*

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 6/29/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS 10
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D = 1 + PZ-146-042911-01 (280-15257-1)
XVII.	Field blanks	MB	FB = 2, FB-041411-19 (280-14655-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinstate
FB = Field blank

EB = ~~EB~~ Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

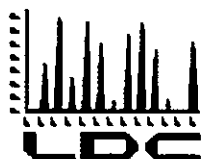
1	PZ-146_042911_36	11	MB 280-65/25/-A	21		31	
2	FB_PZ-146_042911_19	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GCMS NDMA (EPA Method 1625M)

Y ~~N~~ ~~NA~~ Were field duplicate pairs identified in this SDG?
Y ~~N~~ ~~NA~~ Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent Only)
	PZ-146_042911_01	PZ-146_042911_36		
NDMA	0.0065	0.0050U	26	ND



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

June 16, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

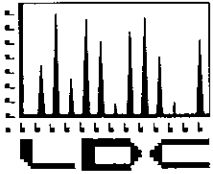
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 24, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25528:

<u>SDG #</u>	<u>Fraction</u>
280-15069-1/IUD2837/ A1D270448	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Pentachlorophenol, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane, Organophosphorus Pesticides, Hexachlorophene, Formaldehyde, Hydrazine
280-15126-1/IUD2827/ A1D280509	Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane, Organophosphorus Pesticides, Hexachlorophene, Formaldehyde, Hydrazine
280-15184-1/IUD2933/ A1D290602	Organophosphorus Pesticides, Hexachlorophene, Formaldehyde, Hydrazine
280-15257-1/IUE0199/ A1D300419	Formaldehyde, Hydrazine
280-15257-2	N-Nitrosodimethylamine
IUD2042	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Hexachlorophene, Herbicides, Wet Chemistry TPH as Extractables, 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane, Organophosphorus Pesticides, Dioxins/Dibenzofurans, Formaldehyde, Hydrazine, Perchlorate
IUD2221	Volatiles, 1,4-Dioxane, Semivolatiles, N-Nitrosodimethylamine, Polychlorinated Biphenyls, Dissolved Metals, Wet Chemistry, TPH as Extractables, Dioxins/Dibenzofurans, Formaldehyde, Hydrazine

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009



- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

Client Select IV LDC #25528 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)	1,4-Dioxane (8260B)		1,2,3-TCP (524.2)		SVOA (8270C)		SVOA (8270C)		PCP (8270C)		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (OK-DEQ)		EDB (504.1)		Formaldehyde (8315)		Hexachlorophene (8321A)		OPHS Pest. (8141A)		Herbs (8151A)				
					W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	
Matrix: Water/Soil																																							
A	280-15069-1/ IUD2837/ A1D270448	05/24/11	06/15/11	11	0	10	0	2	0	7	0	2	0	1	0	7	0	1	0	3	0	3	0	5	0	4	0	2	0	7	0	1	0	1	0	1	0	1	0
B	280-15126-1/ IUD2827/ A1D280509	05/24/11	06/15/11	6	0	6	0	6	0	4	0	-	3	0	3	0	3	0	3	0	3	0	3	0	3	0	6	0	3	0	3	0	3	0	3	0	3	0	
C	280-15184-1/ IUD2933/ A1D290602	05/24/11	06/15/11	9	0	9	0	2	0	6	0	5	0	1	0	6	0	1	0	6	0	1	0	6	0	6	0	2	0	6	0	1	0	1	0	1	0	1	0
D	280-15257-1/ IUE0199/ A1D300419	05/24/11	06/15/11	11	0	11	0	5	0	7	0	4	0	1	0	5	0	1	0	7	0	1	0	7	0	7	0	2	0	3	0	1	0	1	0	1	0	1	0
E	280-15257-2	05/24/11	06/15/11	-	-	-	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
F	IUD2042	05/24/11	06/15/11	1	0	1	0	1	0	1	0	-	-	-	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	
G	IUD2221	05/24/11	06/15/11	1	0	1	0	-	-	1	0	1	0	-	1	0	-	1	0	-	1	0	-	1	0	1	0	-	-	1	0	-	-	1	0	-	-	-	
Total	T/PG			39	0	38	0	16	0	26	0	12	0	6	0	25	0	7	0	21	0	9	0	23	0	22	0	13	0	21	0	7	0	7	0	7	0	7	299

Client Select IV LDC #25528 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	Dioxins (8290)	CLO ₄ (6860)		1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydra-zine (DVWC)		Alk. (2320B)		NH ₃ -N (350.1)		Cl SO ₄ (300.0)		F NO ₃ (300.0)		Br NO ₂ -N O-PO ₄		Cr(VI) & Diss. Cr(VI)		CN- (9012A)		Cond. (2510B)		CLO ₄ (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)					
					W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
Matrix: Water/Soil																																								
A	280-15069-1	05/24/11	06/15/11	-	-	-	5	0	5	0	5	0	2	0	5	0	4	0	7	0	2	0	2	0	2	0	1	0	2	0	5	0	5	0	2	0	2	0		
B	280-15126-1	05/24/11	06/15/11	-	-	-	3	0	2	0	2	0	1	0	3	0	1	0	3	0	3	0	-	-	-	-	3	0	1	0	3	0	3	0	3	0	1	0	1	0
C	280-15184-1	05/24/11	06/15/11	-	-	-	2	0	2	0	2	0	1	0	2	0	6	0	6	0	6	0	5	0	4	0	1	0	1	0	2	0	2	0	2	0	1	0	1	0
D	280-15257-1	05/24/11	06/15/11	-	-	-	1	0	-	2	0	1	0	1	0	1	0	3	0	3	0	2	0	2	0	2	0	1	0	1	0	1	0	1	0	1	0	1	0	
F	IUD2042/HAL74/ G1D220529/ 1D22017	05/24/11	06/15/11	1	0	1	0	1	0	1	0	1	0	-	1	0	-	1	0	1	0	-	-	-	-	1	0	-	-	1	0	1	0	1	0	-	-	-		
G	IUD2221/ HAL74/ G1D260546	05/24/11	06/15/11	1	0	-	1	0	1	0	1	0	-	-	-	-	1	0	1	0	1	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Total	T/PG			2	0	1	0	13	0	11	0	13	0	5	0	12	0	15	0	21	0	10	0	8	0	7	0	5	0	12	0	12	0	12	0	5	0	5	157	

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: May 31, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUD2042

Sample Identification

HAR-04_042011_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits with the following exceptions:

LCS ID	Compound	%R (Limits)	Associated Samples	Flag	A or P
11D3757-BS1	2-Hexanone 4-Methyl-2-pentanone	145 (45-140) 141 (45-140)	All samples in SDG IUD2042	J (all detects) J (all detects)	P

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDGIUD2042	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-04_042011_03 and HAR-04_042011_01 (from SDG 280-14865-1) were identified as split samples. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-04_042011_01	HAR-04_042011_03			
1,1,1-Trichloroethane	0.54	0.53	2 (≤35)	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-04_042011_01	HAR-04_042011_03			
cis-1,2-Dichloroethene	7.6	8.6	12 (≤ 35)	-	-
Trichloroethene	100	140	33 (≤ 35)	-	-

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Data Qualification Summary - SDG IUD2042**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2042	HAR-04_042011_03	2-Hexanone 4-Methyl-2-pentanone	P	P	Technical holding times (H)
IUD2042	HAR-04_042011_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/20/11</u>
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	<u>Client Spec</u>
VIII.	Laboratory control samples	SW	<u>LCS</u>
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates <u>/split</u>	SW	<u>S = 1 + HAR-04_042011-01 (280-14865)</u>
XVII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

1	HAR-04_042011_03	11	<u>11 D 3343 - B161</u>	21		31	
2		12	<u>11 D 3757 - ↓</u>	22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC. 1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl chloride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene. total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropane	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

VALIDATION FINDINGS WORKSHEET
Field Split

METHOD: GC MS VOA (EPA SW 846 Method 8260B)

- Y N NA Were field split pairs identified in this SDG?
- Y N NA Were target analytes detected in the field split pairs?

Compound	Concentration (ug/L)		(≤ 35)	Qualifications (Parent only)
	HAR-04_042011_01	HAR-04_042011_03	RPD	
1,1,1-Trichloroethane	0.54	0.53	2	
cis-1,2-Dichloroethene	7.6	8.6	12	
Trichloroethene	100	140	33	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: May 31, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUD2042

Sample Identification

HAR-04_042011_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-dioxane was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD2042	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-04_042011_03 and HAR-04_042011_01 (from SDG 280-14865-1) were identified as split samples. No 1,4-Dioxane was detected in any of the samples.

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG IUD2042**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2042	HAR-04_042011_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates (Split)	ND	S = 1 + HAR-04_042011_01 (280-14865-1)
XVII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: *water*

1	HAR-04_042011_03	11	11D3043-Blk1	21	31
2		12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: May 31, 2011

Matrix: Water

Parameters: 1,2,3-Trichloropropane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUD2042

Sample Identification

HAR-04_042011_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-Trichloropropane was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD2042	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-04_042011_03 and HAR-04_042011_01 (from SDG 280-14865-1) were identified as split samples. No 1,2,3-Trichloropropane was detected in any of the samples.

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
1,2,3-Trichloropropane - Data Qualification Summary - SDG IUD2042**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2042	HAR-04_042011_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

METHOD: GC/MS 1,2,3-Trichloropropane (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates / Lab Dup	N / A	
VIII.	Laboratory control samples	A	LCS / D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / Split	ND	S = 1 + HAR-04_042011_01 (280-14865-1)
XVII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: *Water*

1	HAR-04_042011_03	11	W1D0886-BU1	21	31
2		12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: May 31, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUD2042

Sample Identification

HAR-04_042011_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there was insufficient sample volume for analysis of the matrix spike and matrix spike duplicate.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD2042	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-04_042011_03 and HAR-04_042011_01 (from SDG 280-14865-1) were identified as split samples. No semivolatiles were detected in any of the samples.

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG IUD2042**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2042	HAR-04_042011_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

LDC #: 25528F2a
 SDG #: IUD2042
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/27/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Insufficient vol.
VIII.	Laboratory control samples	A	4CS / D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / Split	ND	S = 1 + HAR-04-042011-01 (280-14865-1)
XVII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: Water

1	HAR-04_042011_03	11	11 D3088-blk 1	21	31
2		12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: June 1, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUD2042

Sample Identification

HAR-04_042011_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-nitrosodimethylamine was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there was insufficient sample volume for analysis of the matrix spike and matrix spike duplicate.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD2042	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Samples HAR-04_042011_03 and HAR-04_042011_01 (from SDG 280-14865-1) were identified as split samples. No N-Nitrosodimethylamine was detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Data Qualification Summary - SDG IUD2042**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2042	HAR-04_042011_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary – SDG IUD2042**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

LDC #: 25528F2b

VALIDATION COMPLETENESS WORKSHEET

Date: 5/27/11

SDG #: IUD2042

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: *[Signature]*2nd Reviewer: *[Signature]*

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	Insufficient vol
VIII.	Laboratory control samples	A	LCS / D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / split	ND	S = 1 + HAR-04_042011_01 (280-14865-1)
XVII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	HAR-04_042011_03	11	11 D3001 - Blk1	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: May 31, 2011

Matrix: Water

Parameters: Chlorinated Pesticides

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUD2042

Sample Identification

HAR-04_042011_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticides were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there was insufficient sample volume for analysis of the matrix spike and matrix spike duplicate.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

Raw data were not reviewed for this SDG.

XIII. Compound Quantitation and Reported CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD2042	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

No field duplicates were identified in this SDG.

Samples HAR-04_042011_03 and HAR-04_042011_01 (from SDG 280-14865-1) were identified as split samples. No chlorinated pesticides were detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Data Qualification Summary - SDG IUD2042**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2042	HAR-04_042011_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Field Blank Data Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

LDC #: 25528F3a

VALIDATION COMPLETENESS WORKSHEET

Date: 5/27/11

SDG #: IUD2042

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: *ML*2nd Reviewer: *[Signature]*

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	In sufficient vol.
VIII.	Laboratory control samples	A	LCS / D
IX.	Regional quality assurance and quality control	N	
X.	Florisil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation and reported CRQLs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates / Split	ND	S = 1 + HAR-04_042011_01 (250-14865-1)
XVI.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	HAR-04_042011_03	11	ND 3032-Blk1	21	31
2		12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: May 31, 2011

Matrix: Water

Parameters: Polychlorinated Biphenyls

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUD2042

Sample Identification

HAR-04_042011_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

Raw data were not reviewed for this SDG.

XIII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD2042	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

No field duplicates were identified in this SDG.

Samples HAR-04_042011_03 and HAR-04_042011_01 (from SDG 280-14865-1) were identified as split samples. No polychlorinated biphenyls were detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
Polychlorinated Biphenyls - Data Qualification Summary - SDG IUD2042**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2042	HAR-04_042011_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

LDC #: 25528F3b
 SDG #: IUD2042
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/27/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	X	Sampling dates: 4/20/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS / D
IX.	Regional quality assurance and quality control	N	
X.	Florisil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation and reported CRQLs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates / split	ND	S = 1 + HAR-04_042011_01 (280-4865-1)
XVI.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	HAR-04_042011_03	11	11 D 3032-BLK1	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: June 2, 2011

Matrix: Water

Parameters: Metals

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUD2042

Sample Identification

HAR-04_042011_03
HAR-04_042011_03F
HAR-04_042011_03MS
HAR-04_042011_03MSD

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6020 and 7000 for Metals. The metals analyzed were Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Mercury, Nickel, Selenium, Silver, Thallium, Tin, Vanadium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No metal contaminants were found in the preparation blanks.

No field blanks were identified in this SDG.

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution data were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG IUD2042	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Samples HAR-04_042011_03 and HAR-04_042011_01 (from SDG 280-14865-1) and samples HAR-04_042011_03F and HAR-04_042011_01F (from SDG 280-14865-1) were identified as split samples. No metals were detected in any of the samples with the following exceptions:

Compound	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	HAR-04_042011_03	HAR-04_042011_01			
Arsenic	0.00090U	0.00041	75	NQ	-
Barium	0.025	0.027	8	-	-
Chromium	0.00099	0.00050U	66	NQ	-
Cobalt	0.00010U	0.000050	67	NQ	-
Nickel	0.00050U	0.00061	20	-	-
Vanadium	0.00080U	0.00092	14	-	-

Compound	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	HAR-04_042011_03F	HAR-04_042011_01F			
Antimony	0.00030U	0.000081	115	NQ	-
Arsenic	0.00090U	0.00043	71	NQ	-
Barium	0.028	0.026	7	-	-
Cobalt	0.00010U	0.000036	94	NQ	-
Copper	0.00067	0.00056U	18	-	-
Nickel	0.00050U	0.00044	13	-	-
Tin	0.005U	0.00018	186	NQ	-
Vanadium	0.00083	0.00075	10	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 2nd Qtr, 2011
 Metals - Data Qualification Summary - SDG IUD2042**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
IUD2042	HAR-04_042011_03 HAR-04_042011_03F	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Metals - Laboratory Blank Data Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Metals - Field Blank Data Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

LDC #: 25528F4
 SDG #: IUD2042
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 6-1-11
 Page: 1 of 1
 Reviewer: MG
 2nd Reviewer: [Signature]

METHOD: Metals (EPA SW 846 Method 6020/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4-20-11</u>
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	A	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	A	<u>MS/MSD (SDG: IUD2221)</u>
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	A	<u>LCS</u>
IX.	Internal Standard (ICP-MS)	N	<u>not reviewed</u>
X.	Furnace Atomic Absorption QC	N	<u>not utilized</u>
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	<u>S = 1 + HAR-04_042011_01</u> } <u>SDG: 280-148</u> 65-1
XIV.	Field Duplicates	SW	<u>S = 2 + HAR-04_042011-01F</u> }
XV.	Field Blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:
Water

1	HAR-04_042011_03	11		21		31	
2	HAR-04_042011_03F	12		22		32	
3	HAR-04_042011_03MS	13		23		33	
4	HAR-04_042011_03MSD	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19 ¹	<u>PBW1</u>	29		39	
10		20 ²	<u>PBW2</u>	30		40	

Notes: Samples appended with "F" were analyzed for dissolved metals

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: Metals (EPA Method 6010B/7000)

- Y N NA Were field duplicate pairs identified in this SDG?
- Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	HAR-04_042011_01	1		
Arsenic	0.00041	0.00090U	75	no qual. <i>5X</i>
Barium	0.027	0.025	8	
Chromium	0.00050U	0.00099	66	no qual. <i>5X</i>
Cobalt	0.000050	0.00010U	67	no qual. ↓
Nickel	0.00061	0.00050U	20	
Vanadium	0.00092	0.00080U	14	

V:\FIELD DUPLICATES\FD_inorganic\25528F4.WPD

Analyte	Concentration (mg/L)		RPD (≤35)	
	HAR-04_042011_01F	2		
Antimony	0.000081	0.00030U	115	no qual. <i>5X</i>
Arsenic	0.00043	0.00090U	71	no qual. ↓
Barium	0.026	0.028	7	
Cobalt	0.000036	0.00010U	94	no qual. <i>5X</i>
Copper	0.00056U	0.00067	18	
Nickel	0.00044	0.00050U	13	
Tin	0.00018	0.005U	186	no qual. <i>5X</i>
Vanadium	0.00075	0.00083	10	

V:\FIELD DUPLICATES\FD_inorganic\25528F4.WPD

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 20, 2011
LDC Report Date: May 31, 2011
Matrix: Water
Parameters: Hexachlorophene
Validation Level: Level V
Laboratory: TestAmerica, Inc./Lancaster Laboratories
Sample Delivery Group (SDG): IUD2042/HAL74

Sample Identification

HAR-04_042011_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8151A for Hexachlorophene.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hexachlorophene contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/(Matrix Spike) Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D 17116 (All samples in SDG IUD2042/HAL74)	Hexachlorophene	420 (14-79)	340 (14-79)	-	J (all detects)	P

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD2042/HAL74	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Samples HAR-04_042011_03 and HAR-04_042011_10 (from SDG 280-14865-1) were identified as split samples. No hexachlorophene contaminants were detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Data Qualification Summary - SDG IUD2042/HAL74**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2042/HAL74	HAR-04_042011_03	Hexachlorophene	J (all detects)	P	Laboratory control samples (%R) (L)
IUD2042/HAL74	HAR-04_042011_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Laboratory Blank Data Qualification Summary - SDG IUD2042/HAL74**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Field Blank Data Qualification Summary - SDG IUD2042/HAL74**

No Sample Data Qualified in this SDG

METHOD: GC Hexachlorophene (EPA SW 846 Method 8151A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client spec
VII.	Laboratory control samples	SW	ICS 1p
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates / split	ND	* S = 1 + HAR-04_042011-01 (280-14865-1)
XIII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	HAR-04_042011_03	11	PBLK 17116	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: * The primary lab analyzed sample by LCMS and MDL is 10x higher than the split lab.

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 20, 2011
LDC Report Date: May 31, 2011
Matrix: Water
Parameters: Herbicides
Validation Level: Level V
Laboratory: TestAmerica, Inc./Weck Laboratories, Inc.
Sample Delivery Group (SDG): IUD2042/1D22017

Sample Identification

HAR-04_042011_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8151A for Herbicides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No herbicide contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/(Matrix Spike) Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
W1D1029-BS1/BSD1 (All samples in SDG IUD2042/1D22017)	2,4-DB	-	-	85 (≤25)	J (all detects)	P
	4-Nitrophenol	-	-	71 (≤25)	UJ (all non-detects)	
	Dinoseb	-	-	31 (≤25)		

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD2042/1D22017	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Samples HAR-04_042011_03 and HAR-04_042011_01 (from SDG 280-14865-1) were identified as split samples. No herbicide contaminants were detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Data Qualification Summary - SDG IUD2042/1D22017**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2042/1D22017	HAR-04_042011_03	2,4-DB 4-Nitrophenol Dinoseb	J (all detects) UJ (all non-detects)	P	Laboratory control samples (RPD) (E)
IUD2042/1D22017	HAR-04_042011_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Laboratory Blank Data Qualification Summary - SDG IUD2042/1D22017**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Field Blank Data Qualification Summary - SDG IUD2042/1D22017**

No Sample Data Qualified in this SDG

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	SW	LCS ID
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates / Split	ND	S = 1 + HAR-04-042011-01 (280-14865-1)
XIII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: Water

1	HAR-04_042011_03	11	WID1029-BLK1	21	31
2		12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

VALIDATION FINDINGS WORKSHEET

METHOD: GC HPLC

8310	8330	8151	8141	8141(Con't)	8021B
A. Acenaphthene	A. HMX	A. 2,4-D	A. Dichlorvos	V. Fensulfothion	V. Benzene
B. Acenaphthylene	B. RDX	B. 2,4-DB	B. Mevinphos	W. Boistar	CC. Toluene
C. Anthracene	C. 1,3,5-Trinitrobenzene	C. 2,4,5-T	C. Demeton-O	X. EPN	EE. Ethyl Benzene
D. Benzo(a)anthracene	D. 1,3-Dinitrobenzene	D. 2,4,5-TP	D. Demeton-S	Y. Azinphos-methyl	SSS. O-Xylene
E. Benzo(a)pyrene	E. Tetlyl	E. Dinoseb	E. Ethoprop	Z. Coumaphos	RRR. MP-Xylene
F. Benzo(b)fluoranthene	F. Nitrobenzene	F. Dichlorprop	F. Naled	AA. Parathion	GG. Total Xylene
G. Benzo(g,h,i)perylene	G. 2,4,6-Trinitrotoluene	G. Dicamba	G. Sulfotep	BB. Trichloronate	
H. Benzo(k)fluoranthene	H. 4-Amino-2,6-dinitrotoluene	H. Dalapon	H. Phorate	CC. Trichlorinate	
I. Chrysene	I. 2-Amino-4,6-dinitrotoluene	I. MCPP	I. Dimethoate	DD. Trifluralin	
J. Dibenz(a,h)anthracene	J. 2,4-Dinitrotoluene	J. MCPA	J. Diazinon	EE. Def	
K. Fluoranthene	K. 2,6-Dinitrotoluene	K. Pentachlorophenol	K. Disulfoton	FF. Prowl	
L. Fluorene	L. 2-Nitrotoluene	L. 2,4,5-TP (silvex)	L. Parathion-methyl	GG. Ethion	
M. Indeno(1,2,3-cd)pyrene	M. 3-Nitrotoluene	M. Silvex	M. Ronnel		
N. Naphthalene	N. 4-Nitrotoluene	N. 4-Nitrophenol	N. Malathion		
O. Phenanthrene	O. Nitroglycerin		O. Chlorpyrifos		
P. Pyrene	P.		P. Fenthion		
Q.	Q		Q. Parathion-ethyl		
R.			R. Trichloronate		
S.			S. Merphos		
			T. Stirofos		
			U. Tokuthion		

Notes:

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 20, 2011
LDC Report Date: June 2, 2011
Matrix: Water
Parameters: Wet Chemistry
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): IUD2042

Sample Identification

HAR-04_042011_03
HAR-04_042011_03DUP

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 350.1 for Ammonia as Nitrogen, EPA Method 300.0 for Fluoride and Nitrate, EPA SW 846 Method 9014 for Cyanide, EPA Method 314.0 for Perchlorate, EPA SW 846 Method 9040B for pH, and Standard Method 4500-S C,D for Sulfide.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

Raw data were not reviewed for this SDG. The review was based on QC data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
PB (prep blank)	Sulfide	0.0230 mg/L	All samples in SDG IUD2042

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
HAR-04_042011_03	Sulfide	0.051 mg/L	0.051U mg/L

No field blanks were identified in this SDG.

V. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG IUD2042	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

Samples HAR-04_042011_03 and HAR-04_042011_01 (from SDG 280-14865-1) were identified as split samples. No contaminant concentrations were detected in any of the samples with the following exceptions:

Analyte	Concentration		RPD (Limits)	Flag	A or P
	HAR-04_042011_03	HAR-04_042011_01			
Fluoride	0.68 mg/L	0.88 mg/L	26 (≤ 35)	-	-
Nitrate	5.5 mg/L	5.9 mg/L	7 (≤ 35)	-	-
Perchlorate	1.9 ug/L	1.5 ug/L	24 (≤ 35)	-	-
Sulfide	0.051 mg/L	0.0070U mg/L	152 (≤ 35)	NQ	-
pH	6.9 units	6.65 units	4 (≤ 35)	-	-

NQ = One or both results were $< 5x$ the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG IUD2042**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
IUD2042	HAR-04_042011_03	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG IUD2042**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
IUD2042	HAR-04_042011_03	Sulfide	0.051U mg/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

LDC #: 25528F6

VALIDATION COMPLETENESS WORKSHEET

Date: 6-1-11

SDG #: IUD2042/4D22017

Level V

Page: 1 of 1

Laboratory: Test America Inc. ~~Weck Laboratories, Inc.~~

MA

Reviewer: MG

2nd Reviewer: ✓

MA

METHOD: (Analyte) Ammonia-N (EPA Method 350.1), Fluoride, Nitrate, (EPA Method 300.0), Cyanide (EPA SW846 Method 9014), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B), Sulfide (SM4500-S/D)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

(SM4500-S C,D)

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4-20-11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	SW	
IV	Matrix Spike/Matrix Spike Duplicates	N	client specified
V	Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	SW	S = 1 + HAR-04_042011-01 (SDG: 280-14865-1)
X	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
water

1	HAR-04_042011_03	11		21		31	
2	HAR-04_042011_03DUP	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20	PBW	30		40	

Notes: _____

Blanks

METHOD: inorganics, Method See Cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- (Y) N. N/A. Were blank analyses performed as required? If no, please see qualifications below.
- (Y) N. N/A. Were any activities in the blanks greater than the minimum detectable activity? If yes, please see qualifications below.

Conc. units: mg/L Associated Samples: all Quali: U (B)

Analyte	Blank ID	Blank ID	Blank Action Limit						
	PB	ICB/CCB (mg/L)							
Sulfide	0.0230		0.115						

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 All contaminants within five times the method blank concentration were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Inorganics, Method See Cover

Y N NA
Y N NA

Were field duplicate pairs identified in this SDG?
 Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	HAR-04_042011_01	1		
Fluoride	0.88	0.68	26	
Nitrate	5.9	5.5	7	
Perchlorate (ug/L)	1.5	1.9	24	
Sulfide	0.0070U	0.051	152	no qual. <u>CSM</u>
pH (pH units)	6.65	6.9	4	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 20, 2011
LDC Report Date: May 31, 2011
Matrix: Water
Parameters: Total Petroleum Hydrocarbons as Extractables
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): IUD2042

Sample Identification

HAR-04_042011_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were EPA SW 846 Method 8015B for Total Petroleum Hydrocarbons (TPH) as Extractables.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as extractable contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there was insufficient sample volume for analysis of the matrix spike and matrix spike duplicate.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG:

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD2042	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Samples HAR-04_042011_03 and HAR-04_042011_01 (from SDG 280-14865-1) were identified as split samples. No total petroleum hydrocarbons as extractable contaminants were detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Data Qualification Summary - SDG IUD2042**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2042	HAR-04_042011_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Laboratory Blank Data Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Field Blank Data Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

LDC #: 25528F8
 SDG #: IUD2042
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/27/11
 Page: 1 of 1
 Reviewer: SVL
 2nd Reviewer: 9

METHOD: GC TPH as Extractables (EPA SW846 Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	Insufficient vol
VII.	Laboratory control samples	A	LCS / D
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates / split	ND	S = 1 + HAR-04_042011-01 (280-14865-1)
XIII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: Water

1	HAR-04_042011_03	11	11D 3215- B1E1	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 20, 2011
LDC Report Date: May 31, 2011
Matrix: Water
Parameters: 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): IUD2042

Sample Identification

HAR-04_042011_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 504.1 for 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD2042	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Samples HAR-04_042011_03 and HAR-04_042011_01 (from SDG 280-14865-1) were identified as split samples. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Data Qualification Summary -
 SDG IUD2042**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2042	HAR-04_042011_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Laboratory Blank Data
 Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Field Blank Data Qualification
 Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

LDC #: 25528F10
 SDG #: IUD2042
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/27/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC 1,2-Dibromomethane & 1,2-Dibromo-3-chloropropane (EPA Method 504.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	UCS 1b
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates / split	ND	S = 1 + HAR-04_042011_01 (280-14865-1)
XIII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	HAR-04_042011_03	11	11 D 3221 - Blk	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 20, 2011
LDC Report Date: May 31, 2011
Matrix: Water
Parameters: Organophosphorus Pesticides
Validation Level: Level V
Laboratory: TestAmerica, Inc./Weck Laboratories, Inc.
Sample Delivery Group (SDG): IUD2042/1D22017

Sample Identification

HAR-04_042011_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8141A for Organophosphorus Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No organophosphorus pesticide contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
W1D0997-BS1/BSD1 (All samples in SDG IUD2042/1D22017)	Dichlorvos	-	-	31 (≤25)	J (all detects) UJ (all non-detects)	P
	Naled	-	-	71 (≤25)	J (all detects) UJ (all non-detects)	

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD2042/1D22017	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Samples HAR-04_042011_03 and HAR-04_042011_01 (from SDG 280-14865-1) were identified as split samples. No organophosphorus pesticide contaminants were detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Data Qualification Summary - SDG IUD2042/1D22017**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2042/1D22017	HAR-04_042011_03	Dichlorvos Naled	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P	Laboratory control samples (RPD) (E)
IUD2042/1D22017	HAR-04_042011_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Laboratory Blank Data Qualification Summary - SDG IUD2042/1D22017**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Field Blank Data Qualification Summary - SDG IUD2042/1D22017**

No Sample Data Qualified in this SDG

METHOD: GC Organophosphorus Pesticides (EPA SW 846 Method 8141A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	SW	LCS / D
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates (split)	ND	S = 1 + HAR-04_042011-01 (280-14865-1)
XIII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

1	HAR-04_042011_03	11	W1D0997 - Blk1	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

VALIDATION FINDINGS WORKSHEET

METHOD: GC HPLC

8310	8330	8151	8141	8141 (Cont'd)	8021B
A. Acenaphthene	A. HMX	A. 2,4-D	A. Dichlorvos	V. Fensulfothion	V. Benzene
B. Acenaphthylene	B. RDX	B. 2,4-DB	B. Mevinphos	W. Bolstar	CC. Toluene
C. Anthracene	C. 1,3,5-Trinitrobenzene	C. 2,4,5-T	C. Demeton-O	X. EPN	EE. Ethyl Benzene
D. Benzo(a)anthracene	D. 1,3-Dinitrobenzene	D. 2,4,5-TP	D. Demeton-S	Y. Azinphos-methyl	SSS. O-Xylene
E. Benzo(a)pyrene	E. Tetryl	E. Dinoseb	E. Ethoprop	Z. Coumaphos	RRR. MP-Xylene
F. Benzo(b)fluoranthene	F. Nitrobenzene	F. Dichlorprop	F. Naled	AA. Parathion	GG. Total Xylene
G. Benzo(g,h,i)perylene	G. 2,4,6-Trinitrotoluene	G. Dicamba	G. Sulfotep	BB. Trichloronate	
H. Benzo(k)fluoranthene	H. 4-Amino-2,6-dinitrotoluene	H. Dalapon	H. Phorate	CC. Trichlorinate	
I. Chrysene	I. 2-Amino-4,6-dinitrotoluene	I. MCPP	I. Dimethoate	DD. Trifluralin	
J. Dibenz(a,h)anthracene	J. 2,4-Dinitrotoluene	J. MCPA	J. Diazinon	EE. Def	
K. Fluoranthene	K. 2,6-Dinitrotoluene	K. Pentachlorophenol	K. Disulfoton	FF. Prowl	
L. Fluorene	L. 2-Nitrotoluene	L. 2,4,5-TP (silvex)	L. Parathion-methyl	GG. Ethion	
M. Indeno(1,2,3-cd)pyrene	M. 3-Nitrotoluene	M. Silvex	M. Ronnel	HH. Famphur	
N. Naphthalene	N. 4-Nitrotoluene		N. Malathion	II. Phosmet	
O. Phenanthrene	O. Nitroglycerin		O. Chlorpyrifos	JJ. Tetrachlorvinphos	
P. Pyrene	P.		P. Fenthion	KK. Demeton (total)	
Q.	Q		Q. Parathion-ethyl		
R.			R. Trichlorate		
S.			S. Merphos		
			T. Stirofos		
			U. Tokuthion		

Notes:

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: June 1, 2011

Matrix: Water

Parameters: Dioxins/Dibenzofurans

Validation Level: EPA Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUD2042/G1D2205

Sample Identification

HAR-04_042011_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Routine Calibration (Continuing)

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
1118141-BLK1	4/28/11	1,2,3,7,8-PeCD	2.4 pg/g	All samples in SDG IUD2042/G1D220529
		1,2,3,4,7,8-HxCDD	2.7 pg/g	
		1,2,3,6,7,8-HxCDD	2.6 pg/g	
		1,2,3,7,8,9-HxCDD	1.7 pg/g	
		1,2,3,4,6,7,8-HpCDD	7.1 pg/g	
		OCDD	57 pg/g	
		2,3,7,8-TCDF	2.3 pg/g	
		1,2,3,7,8-PeCDF	4.1 pg/g	
		2,3,4,7,8-PeCDF	3.2 pg/g	
		1,2,3,4,7,8-HxCDF	5 pg/g	
		1,2,3,6,7,8-HxCDF	4.5 pg/g	
		2,3,4,6,7,8-HxCDF	2.8 pg/g	
		1,2,3,7,8,9-HxCDF	2 pg/g	
		1,2,3,4,6,7,8-HpCDF	12 pg/g	
		1,2,3,4,7,8,9-HpCDF	4.2 pg/g	
		OCDF	21 pg/g	
		Total PeCDD	2.4 pg/g	
		Total HxCDD	12 pg/g	
		Total HpCDD	13 pg/g	
		Total TCDF	2.3 pg/g	
		Total PeCDF	7.3 pg/g	
		Total HxCDF	23 pg/g	
		Total HpCDF	23 pg/g	

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
HAR-04_042011_03	1,2,3,4,6,7,8-HpCDD	1.1 pg/g	1.1U pg/g
	OCDD	5.9 pg/g	5.9U pg/g
	1,2,3,4,6,7,8-HpCDF	1.4 pg/g	1.4U pg/g
	OCDF	3.8 pg/g	3.8U pg/g
	Total HxCDD	0.5 pg/g	0.5U pg/g
	Total HpCDD	2.3 pg/g	2.3U pg/g
	Total HpCDF	2.3 pg/g	2.3U pg/g

No field blanks were identified in this SDG.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

Internal standards data were not reviewed for Level V.

X. Target Compound Identifications

Raw data were not reviewed for this SDG.

XI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD2042/G1D220529	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XII. System Performance

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

Samples HAR-04_042011_03 and HAR-04_042011_01 (from SDG 280-14869-1) were identified as split samples. No polychlorinated dioxin/dibenzofurans were detected in any of the samples with the following exceptions:

Compound	Concentration (upg/g)		RPD (Limits)	Flag	A or P
	HAR-04_042011_01	HAR-04_042011_03			
1,2,3,4,6,7,8-HpCDD	51U	1.1	192	NQ	-
OCDD	100U	5.9	178	NQ	-
1,2,3,4,6,7,8-HpCDF	51U	1.4	189	NQ	-
OCDF	100U	3.8	185	NQ	-
Total HxCDD	Not reported	0.5	Not Calculable	-	-
Total HpCDD	Not reported	2.3	Not Calculable	-	-
Total HpCDF	Not reported	2.3	Not Calculable	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Data Qualification Summary - SDG IUD2042/G1D220529**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2042/G1D220529	HAR-04_042011_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG IUD2042/G1D220529**

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
IUD2042/G1D220529	HAR-04_042011_03	1,2,3,4,6,7,8-HpCDD OCDD 1,2,3,4,6,7,8-HpCDF OCDF Total HxCDD Total HpCDD Total HpCDF	1.1U pg/g 5.9U pg/g 1.4U pg/g 3.8U pg/g 0.5U pg/g 2.3U pg/g 2.3U pg/g	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG IUD2042/G1D220529**

No Sample Data Qualified in this SDG

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II.	HRGC/HRMS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Routine calibration/ICV	N	
V.	Blanks	SW	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	A	ICS
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	N	
X.	Target compound identifications	N	
XI.	Compound quantitation and CRQLs	N	
XII.	System performance	N	
XIII.	Overall assessment of data	N	
XIV.	Field duplicates / Split	SW	S = 1 + HAR -04_042011_01 (286-14869-1)
XV.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	HAR-04_042011_03	11	118 141- BIK 1	21		31	
2		12	↓ - BIK 1	(TCPDF 22 cm.)		32	
3		13				33	
4		14				34	
5		15				35	
6		16				36	
7		17				37	
8		18				38	
9		19				39	
10		20				40	

Notes: _____

VALIDATION FINDINGS WORKSHEET

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

A. 2,3,7,8-TCDD	F. 1,2,3,4,6,7,8-HpCDD	K. 1,2,3,4,7,8-HxCDF	P. 1,2,3,4,7,8,9-HpCDF	U. Total HpCDD
B. 1,2,3,7,8-PeCDD	G. OCDD	L. 1,2,3,6,7,8-HxCDF	Q. OCDF	V. Total TCDF
C. 1,2,3,4,7,8-HxCDD	H. 2,3,7,8-TCDF	M. 2,3,4,6,7,8-HxCDF	R. Total TCDD	W. Total PeCDF
D. 1,2,3,6,7,8-HxCDD	I. 1,2,3,7,8-PeCDF	N. 1,2,3,7,8,9-HxCDF	S. Total PeCDD	X. Total HxCDF
E. 1,2,3,7,8,9-HxCDD	J. 2,3,4,7,8-PeCDF	O. 1,2,3,4,6,7,8-HpCDF	T. Total HxCDD	Y. Total HpCDF

Notes:

VALIDATION FINDINGS WORKSHEET

Blanks

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y/N N/A Were all samples associated with a method blank?

Y/N N/A Was a method blank performed for each matrix and whenever a sample extraction was performed?

Y/N N/A Was the method blank contaminated?

Blank extraction date: 4/28/11 Blank analysis date: 4/30/11 Associated samples: All Code: B

Conc. units: pg/g

Compound	Blank ID	Sample Identification				
		5x	1			
	1118141-BLK					
B. 1,2,3,7,8-PeCD	2.4	12.00				
C. 1,2,3,4,7,8-HxCDD	2.7*	13.50				
D. 1,2,3,6,7,8-HxCDD	2.6*	13.00				
E. 1,2,3,7,8,9-HxCDD	1.7*	8.50				
F. 1,2,3,4,6,7,8-HpCDD	7.1	35.50	1.1U			
G. OCDD	57	285.00	5.9U			
H. 2,3,7,8-TCDF	2.3	11.50				
I. 1,2,3,7,8-PeCDF	4.1	20.50				
J. 2,3,4,7,8-PeCDF	3.2	16.00				
K. 1,2,3,4,7,8-HxCDF	5	25.00				
L. 1,2,3,6,7,8-HxCDF	4.5	22.50				
M. 2,3,4,6,7,8-HxCDF	2.8*	14.00				
N. 1,2,3,7,8,9-HxCDF	2*	10.00				
O. 1,2,3,4,6,7,8-HpCDF	12	60.00	1.4U			
P. 1,2,3,4,7,8,9-HpCDF	4.2*	21.00				

VALIDATION FINDINGS WORKSHEET

Blanks

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y / N / N/A Were all samples associated with a method blank?

Y / N / N/A Was a method blank performed for each matrix and whenever a sample extraction was performed?

Y / N / N/A Was the method blank contaminated?

Blank extraction date: 4/28/11 Blank analysis date: 4/30/11 Associated samples: All Code: B

Conc. units: pg/g

Compound	Blank ID	Sample Identification				
		5x	1			
Q. OCDF	1112162-BLK 21	105	3.8U			
S. Total PeCDD	2.4	12				
T. Total HxCDD	12*	60	0.5U*			
U. Total HpCDD	13	65	2.3U			
V. Total TCDF	2.3	11.5				
W. Total PeCDF	7.3	36.5				
X. Total HxCDF	23*	115				
Y. Total HpCDF	23*	115	2.3U			
* = EMPC						

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Splits

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

Y N NA Were field split pairs identified in this SDG?
Y N NA Were target analytes detected in the field split pairs?

Compound	Concentration (pg/g)		(<35%) RPD	Qualifications (Parent Only)
	HAR-04_042011_01	HAR-04_042011_03		
F	51U	1.1	192	NQ (<5XRL))
G	100U	5.9	178	NQ (<5XRL))
O	51U	1.4	189	NQ (<5XRL))
Q	100U	3.8	185	NQ (<5XRL))
T	NR	0.5	NC	
U	NR	2.3	NC	
Y	NR	2.3	NC	

NR = Not reported
 NC = Not calculable
 NQ = Not qualified

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: May 31, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUD2042/HAL74

Sample Identification

HAR-04_042011_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD2042/HAL74	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Samples HAR-04_042011_03 and HAR-04_042011_01 (from SDG 280-14865-1) were identified as split samples. No formaldehyde was detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
Formaldehyde - Data Qualification Summary - SDG IUD2042/HAL74**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14865-1/ A1D210577	HAR-04_042011_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Formaldehyde - Laboratory Blank Data Qualification Summary - SDG IUD2042/HAL74**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Formaldehyde - Field Blank Data Qualification Summary - SDG IUD2042/HAL74**

No Sample Data Qualified in this SDG

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	LCS 10
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates /split	ND	S = 1 + HAR-04-042011-01 (280-14865-1)
XIII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: Water

1	HAR-04_042011_03	11	PBLK 11112	21	31
2		12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 20, 2011
LDC Report Date: May 31, 2011
Matrix: Water
Parameters: Hydrazines
Validation Level: Level V
Laboratory: TestAmerica, Inc./Lancaster Laboratories
Sample Delivery Group (SDG): IUD2042/HAL74

Sample Identification

HAR-04_042011_03
HAR-04_042011_03MS
HAR-04_042011_03MSD

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315M for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazines were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD2042/HAL74	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Samples HAR-04_042011_03 and HAR-04_042011_01 (from SDG 280-14865-1) were identified as split samples. No hydrazines were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-04_042011_03	HAR-04_042011_01			
Hydrazine	0.10U	0.68	149 (≤35)	NQ	-
Monomethyl hydrazine	0.50U	0.78	44 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Data Qualification Summary - SDG IUD2042/HAL74**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2042/HAL74	HAR-04_042011_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG IUD2042/HAL74**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG IUD2042/HAL74**

No Sample Data Qualified in this SDG

METHOD: HPLC Hydrazines (Method EPA SW 846 method 8315M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>9/20/11</u>
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	A	
VII.	Laboratory control samples	A	<u>LCS (D)</u>
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates <u>/split</u>	SW	<u>S = 1 + HAR-04_042011_01 (250-14865-1)</u>
XIII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

1	HAR-04_042011_03	11	111500 BLK	21	31
2	HAR-04_042011_03 MS	12		22	32
3	HAR-04_042011_03 MSD	13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

VALIDATION FINDINGS WORKSHEET
Field Split**METHOD:** HPLC Hydrazines (EPA SW 846 Method 8315M/Method DVWC-0077)

Y N NA Were field split pairs identified in this SDG?
Y N NA Were target analytes detected in the field split pairs?

Compound	Concentration (ug/L)		(<35) RPD	Qualifications (Parent only)
	HAR-04_042011_01	HAR-04_042011_03		
Hydrazine	0.68	0.10U	149	NQ (<5xRL)
Monomethyl hydrazine	0.78	0.50U	44	NQ (<5xRL)

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: May 31, 2011

Matrix: Water

Parameters: Perchlorate

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUD2042

Sample Identification

HAR-04_042011_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 6860 for Perchlorate.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No perchlorate was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD2042	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Samples HAR-04_042011_03 and HAR-04_042011_01 (from SDG 280-14865-1) were identified as split samples. No perchlorate was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-04_042011_03	HAR-04_042011_01			
Perchlorate	1.5	1.5	0 (≤35)	-	-

**Boeing SSFL GW 1st Qtr, 2011
Perchlorate - Data Qualification Summary - SDG IUD2042**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2042	HAR-04_042011_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 1st Qtr, 2011
Perchlorate - Laboratory Blank Data Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 1st Qtr, 2011
Perchlorate - Field Blank Data Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

LDC #: 25528F87

VALIDATION COMPLETENESS WORKSHEET

Date: 5/27/11

SDG #: IUD2042

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: *[Signature]*

2nd Reviewer: *[Signature]*

METHOD: LC/MS Perchlorate (EPA SW846 Method 6860)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LC5
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates /split	SW	S = 1 + HAR-04_042011-01 (280-14865-1)
XVII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: *Water*

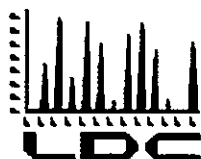
+		-				
1	HAR-04_042011_03	11	11 D 3608-blk1	21		31
2		12		22		32
3		13		23		33
4		14		24		34
5		15		25		35
6		16		26		36
7		17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

VALIDATION FINDINGS WORKSHEET
Field Split

METHOD: LC MS Perchlorate (EPA SW 846 Method 6860)

Y/N/NA Were field split pairs identified in this SDG?
Y/N/NA Were target analytes detected in the field split pairs?

Compound	Concentration (ug/L)		(<35) RPD	Qualifications (Parent only)
	HAR-04_042011_01	HAR-04_042011_03		
Perchlorate	1.5	1.5	0	



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

June 16, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

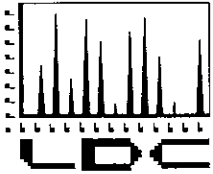
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 24, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25528:

<u>SDG #</u>	<u>Fraction</u>
280-15069-1/IUD2837/ A1D270448	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane,
280-15126-1/IUD2827/ A1D280509	Semivolatiles, Pentachlorophenol, N-
280-15184-1/IUD2933/ A1D290602	Nitrosodimethylamine, Chlorinated Pesticides,
280-15257-1/IUE0199/ A1D300419	Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, 1,2- Dibromoethane & 1,2-Dibromo-3-chloropropane,
280-15257-2	Organophosphorus Pesticides, Hexachlorophene, Formaldehyde, Hydrazine
IUD2042	N-Nitrosodimethylamine
IUD2221	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Hexachlorophene, Herbicides, Wet Chemistry TPH as Extractables, 1,2-Dibromoethane & 1,2-Dibromo- 3-chloropropane, Organophosphorus Pesticides, Dioxins/Dibenzofurans, Formaldehyde, Hydrazine, Perchlorate
IUD2221	Volatiles, 1,4-Dioxane, Semivolatiles, N- Nitrosodimethylamine, Polychlorinated Biphenyls, Dissolved Metals, Wet Chemistry, TPH as Extractables, Dioxins/Dibenzofurans, Formaldehyde, Hydrazine

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009



- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

Client Select IV LDC #25528 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)	1,4-Dioxane (8260B)		1,2,3-TCP (524.2)		SVOA (8270C)		SVOA (8270C)		PCP (8270C)		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (OK-DEQ)		EDB (504.1)		Formaldehyde (8315)		Hexachlorophene (8321A)		OPHS Pest. (8141A)		Herbs (8151A)						
					W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S			
Matrix: Water/Soil																																									
A	280-15069-1/ IUD2837/ A1D270448	05/24/11	06/15/11	11	0	10	0	2	0	7	0	2	0	1	0	7	0	1	0	3	0	3	0	5	0	4	0	2	0	7	0	1	0	1	0	1	0	1	0		
B	280-15126-1/ IUD2827/ A1D280509	05/24/11	06/15/11	6	0	6	0	6	0	4	0	-	3	0	3	0	3	0	3	0	3	0	3	0	3	0	3	0	6	0	3	0	3	0	3	0	3	0	3	0	
C	280-15184-1/ IUD2933/ A1D290602	05/24/11	06/15/11	9	0	9	0	2	0	6	0	5	0	1	0	6	0	1	0	6	0	1	0	6	0	6	0	2	0	6	0	1	0	1	0	1	0	1	0	1	0
D	280-15257-1/ IUE0199/ A1D300419	05/24/11	06/15/11	11	0	11	0	5	0	7	0	4	0	1	0	5	0	1	0	7	0	1	0	7	0	7	0	2	0	3	0	1	0	1	0	1	0	1	0	1	0
E	280-15257-2	05/24/11	06/15/11	-	-	-	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
F	IUD2042	05/24/11	06/15/11	1	0	1	0	1	0	1	0	-	-	-	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	
G	IUD2221	05/24/11	06/15/11	1	0	1	0	-	-	1	0	1	0	-	1	0	-	1	0	-	1	0	-	1	0	1	0	-	-	1	0	-	-	1	0	-	-	-	-	-	
Total	T/PG			39	0	38	0	16	0	26	0	12	0	6	0	25	0	7	0	21	0	9	0	23	0	22	0	13	0	21	0	7	0	7	0	7	0	7	0	7	299

Client Select IV LDC #25528 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	Dioxins (8290)	CLO ₄ (6860)		1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydrazine (DVWC)		Alk. (2320B)		NH ₃ -N (350.1)		Cl SO ₄ (300.0)		F NO ₃ (300.0)		Br NO ₂ -N O-PO ₄		Cr(VI) & Diss. Cr(VI)		CN- (9012A)		Cond. (2510B)		CLO ₄ (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)						
					W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	
Matrix: Water/Soil																																									
A	280-15069-1	05/24/11	06/15/11	-	-	-	5	0	5	0	5	0	2	0	5	0	4	0	7	0	2	0	2	0	2	0	1	0	2	0	5	0	5	0	2	0	2	0	2	0	
B	280-15126-1	05/24/11	06/15/11	-	-	-	3	0	2	0	2	0	1	0	3	0	1	0	3	0	3	0	-	-	-	-	3	0	1	0	3	0	3	0	3	0	1	0	1	0	
C	280-15184-1	05/24/11	06/15/11	-	-	-	2	0	2	0	2	0	1	0	2	0	6	0	6	0	6	0	5	0	4	0	1	0	1	0	2	0	2	0	2	0	1	0	1	0	
D	280-15257-1	05/24/11	06/15/11	-	-	-	1	0	-	2	0	1	0	1	0	1	0	3	0	3	0	2	0	2	0	2	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0
F	IUD2042/HAL74/ G1D220529/ 1D22017	05/24/11	06/15/11	1	0	1	0	1	0	1	0	1	0	-	1	0	-	-	1	0	1	0	-	-	-	-	1	0	-	1	0	1	0	1	0	1	0	1	0		
G	IUD2221/ HAL74/ G1D260546	05/24/11	06/15/11	1	0	-	1	0	1	0	1	0	-	-	-	-	1	0	1	0	1	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Total	T/PG			2	0	1	0	13	0	11	0	13	0	5	0	12	0	15	0	21	0	10	0	8	0	7	0	5	0	12	0	12	0	12	0	5	0	5	157		

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: June 16, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUD2042

Sample Identification

HAR-04_042011_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits with the following exceptions:

LCS ID	Compound	%R (Limits)	Associated Samples	Flag	A or P
11D3757-BS1	2-Hexanone 4-Methyl-2-pentanone	145 (45-140) 141 (45-140)	All samples in SDG IUD2042	J (all detects) J (all detects)	P

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD2042	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Samples HAR-04_042011_03 and HAR-04_042011_01 (from SDG 280-14865-1) were identified as split samples. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-04_042011_01	HAR-04_042011_03			
1,1,1-Trichloroethane	0.54	0.53	2 (≤ 35)	-	-
cis-1,2-Dichloroethene	7.6	8.6	12 (≤ 35)	-	-
Trichloroethene	100	140	33 (≤ 35)	-	-

***Boeing SSFL GW 2nd Qtr, 2011**
Volatiles - Data Qualification Summary - SDG IUD2042

SDG	Sample	Compound	Flag	A or P	Reason (Code)
*IUD2042	HAR-04_042011_03	2-Hexanone 4-Methyl-2-pentanone	J (all detects) J (all detects)	P	Laboratory control samples (%R) (L)
IUD2042	HAR-04_042011_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG IUD2042

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG IUD2042

No Sample Data Qualified in this SDG

LDC #: 25528F1a
 SDG #: IUD2042
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/27/11
 Page: 1 of 1
 Reviewer: GYG
 2nd Reviewer: [Signature]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

Validation Area			Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	SW	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / Split	SW	S = 1 + HAR-04_042011-01 (280-14865)
XVII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

1	HAR-04_042011_03	11	11 D 3343 - B/E1	21		31
2		12	11 D 3757 - ↓	22		32
3		13		23		33
4		14		24		34
5		15		25		35
6		16		26		36
7		17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC. 1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl chloride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotrifluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Diisopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl vinyl ketone	HHH. 1,4-Dichlorobenzene	BBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

VALIDATION FINDINGS WORKSHEET
Field Split

METHOD: GC MS VOA (EPA SW 846 Method 8260B)

Y/N/NA Were field split pairs identified in this SDG?
Y/N/NA Were target analytes detected in the field split pairs?

Compound	Concentration (ug/L)		(<35) RPD	Qualifications (Parent only)
	HAR-04_042011_01	HAR-04_042011_03		
1,1,1-Trichloroethane	0.54	0.53	2	
cis-1,2-Dichloroethene	7.6	8.6	12	
Trichloroethene	100	140	33	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: May 31, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUD2042

Sample Identification

HAR-04_042011_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-dioxane was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD2042	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-04_042011_03 and HAR-04_042011_01 (from SDG 280-14865-1) were identified as split samples. No 1,4-Dioxane was detected in any of the samples.

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG IUD2042**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2042	HAR-04_042011_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates (Split)	ND	S = 1 + HAR-04_042011_01 (280-14865-1)
XVII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: *water*

1	HAR-04_042011_03	11	11D3043-Blk1	21	31
2		12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: May 31, 2011

Matrix: Water

Parameters: 1,2,3-Trichloropropane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUD2042

Sample Identification

HAR-04_042011_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
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- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-Trichloropropane was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD2042	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-04_042011_03 and HAR-04_042011_01 (from SDG 280-14865-1) were identified as split samples. No 1,2,3-Trichloropropane was detected in any of the samples.

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
1,2,3-Trichloropropane - Data Qualification Summary - SDG IUD2042**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2042	HAR-04_042011_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

METHOD: GC/MS 1,2,3-Trichloropropane (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates / Lab Dup	N / A	
VIII.	Laboratory control samples	A	LCS / D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / Split	ND	S = 1 + HAR-04_042011_01 (280-14865-1)
XVII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: *Water*

1	HAR-04_042011_03	11	W1D0886-BU1	21	31
2		12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: May 31, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUD2042

Sample Identification

HAR-04_042011_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there was insufficient sample volume for analysis of the matrix spike and matrix spike duplicate.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD2042	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-04_042011_03 and HAR-04_042011_01 (from SDG 280-14865-1) were identified as split samples. No semivolatiles were detected in any of the samples.

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG IUD2042**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2042	HAR-04_042011_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

LDC #: 25528F2a
 SDG #: IUD2042
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/27/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Insufficient vol.
VIII.	Laboratory control samples	A	4CS / D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / Split	ND	S = 1 + HAR-04-042011-01 (280-14865-1)
XVII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: Water

1	HAR-04_042011_03	11	11 D3088-blk 1	21	31
2		12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: June 1, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUD2042

Sample Identification

HAR-04_042011_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-nitrosodimethylamine was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there was insufficient sample volume for analysis of the matrix spike and matrix spike duplicate.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD2042	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Samples HAR-04_042011_03 and HAR-04_042011_01 (from SDG 280-14865-1) were identified as split samples. No N-Nitrosodimethylamine was detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG IUD2042**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2042	HAR-04_042011_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary – SDG IUD2042**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

LDC #: 25528F2b
 SDG #: IUD2042
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/27/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/20/11</u>
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	<u>Insufficient vol</u>
VIII.	Laboratory control samples	A	<u>LCS / D</u>
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates <u>/split</u>	ND	<u>S = 1 + HAR-04_042011_01 (280-14865-1)</u>
XVII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: Water

1	HAR-04_042011_03	11	11 D3001 - Blk1	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: May 31, 2011

Matrix: Water

Parameters: Chlorinated Pesticides

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUD2042

Sample Identification

HAR-04_042011_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticides were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there was insufficient sample volume for analysis of the matrix spike and matrix spike duplicate.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

Raw data were not reviewed for this SDG.

XIII. Compound Quantitation and Reported CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD2042	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

No field duplicates were identified in this SDG.

Samples HAR-04_042011_03 and HAR-04_042011_01 (from SDG 280-14865-1) were identified as split samples. No chlorinated pesticides were detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Data Qualification Summary - SDG IUD2042**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2042	HAR-04_042011_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Field Blank Data Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

LDC #: 25528F3a

VALIDATION COMPLETENESS WORKSHEET

Date: 5/27/11

SDG #: IUD2042

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: *ML*2nd Reviewer: *[Signature]*

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	In sufficient vol.
VIII.	Laboratory control samples	A	LCS / D
IX.	Regional quality assurance and quality control	N	
X.	Florisil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation and reported CRQLs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates / Split	ND	S = 1 + HAR-04_042011_01 (250-14865-1)
XVI.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	HAR-04_042011_03	11	ND 3032-Blk1	21	31
2		12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: May 31, 2011

Matrix: Water

Parameters: Polychlorinated Biphenyls

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUD2042

Sample Identification

HAR-04_042011_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

Raw data were not reviewed for this SDG.

XIII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD2042	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

No field duplicates were identified in this SDG.

Samples HAR-04_042011_03 and HAR-04_042011_01 (from SDG 280-14865-1) were identified as split samples. No polychlorinated biphenyls were detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
Polychlorinated Biphenyls - Data Qualification Summary - SDG IUD2042**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2042	HAR-04_042011_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

LDC #: 25528F3b
 SDG #: IUD2042
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/27/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	X	Sampling dates: 4/20/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS / D
IX.	Regional quality assurance and quality control	N	
X.	Florisil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation and reported CRQLs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates / split	ND	S = 1 + HAR-04_042011_01 (280-4865-1)
XVI.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	HAR-04_042011_03	11	11 D 3032- BIK1	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: June 2, 2011

Matrix: Water

Parameters: Metals

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUD2042

Sample Identification

HAR-04_042011_03
HAR-04_042011_03F
HAR-04_042011_03MS
HAR-04_042011_03MSD

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6020 and 7000 for Metals. The metals analyzed were Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Mercury, Nickel, Selenium, Silver, Thallium, Tin, Vanadium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No metal contaminants were found in the preparation blanks.

No field blanks were identified in this SDG.

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution data were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG IUD2042	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Samples HAR-04_042011_03 and HAR-04_042011_01 (from SDG 280-14865-1) and samples HAR-04_042011_03F and HAR-04_042011_01F (from SDG 280-14865-1) were identified as split samples. No metals were detected in any of the samples with the following exceptions:

Compound	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	HAR-04_042011_03	HAR-04_042011_01			
Arsenic	0.00090U	0.00041	75	NQ	-
Barium	0.025	0.027	8	-	-
Chromium	0.00099	0.00050U	66	NQ	-
Cobalt	0.00010U	0.000050	67	NQ	-
Nickel	0.00050U	0.00061	20	-	-
Vanadium	0.00080U	0.00092	14	-	-

Compound	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	HAR-04_042011_03F	HAR-04_042011_01F			
Antimony	0.00030U	0.000081	115	NQ	-
Arsenic	0.00090U	0.00043	71	NQ	-
Barium	0.028	0.026	7	-	-
Cobalt	0.00010U	0.000036	94	NQ	-
Copper	0.00067	0.00056U	18	-	-
Nickel	0.00050U	0.00044	13	-	-
Tin	0.005U	0.00018	186	NQ	-
Vanadium	0.00083	0.00075	10	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 2nd Qtr, 2011
 Metals - Data Qualification Summary - SDG IUD2042**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
IUD2042	HAR-04_042011_03 HAR-04_042011_03F	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Metals - Laboratory Blank Data Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Metals - Field Blank Data Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

LDC #: 25528F4
 SDG #: IUD2042
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 6-1-11
 Page: 1 of 1
 Reviewer: MG
 2nd Reviewer: [Signature]

METHOD: Metals (EPA SW 846 Method 6020/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4-20-11</u>
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	A	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	A	<u>MS/MSD (SDG: IUD2221)</u>
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	A	<u>LCS</u>
IX.	Internal Standard (ICP-MS)	N	<u>not reviewed</u>
X.	Furnace Atomic Absorption QC	N	<u>not utilized</u>
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	<u>S=1 + HAR-04_042011_01 } SDG: 280-148</u> 65-1
XIV.	Field Duplicates	SW	<u>S=2 + HAR-04_042011-01F }</u>
XV.	Field Blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:
Water

1	HAR-04_042011_03	11		21		31	
2	HAR-04_042011_03F	12		22		32	
3	HAR-04_042011_03MS	13		23		33	
4	HAR-04_042011_03MSD	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19 ¹	<u>PBW1</u>	29		39	
10		20 ²	<u>PBW2</u>	30		40	

Notes: Samples appended with "F" were analyzed for dissolved metals

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: Metals (EPA Method 6010B/7000)

- Y N NA Were field duplicate pairs identified in this SDG?
- Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	HAR-04_042011_01	1		
Arsenic	0.00041	0.00090U	75	no qual. <i>5X</i>
Barium	0.027	0.025	8	
Chromium	0.00050U	0.00099	66	no qual. <i>5X</i>
Cobalt	0.000050	0.00010U	67	no qual. ↓
Nickel	0.00061	0.00050U	20	
Vanadium	0.00092	0.00080U	14	

V:\FIELD DUPLICATES\FD_inorganic\25528F4.WPD

Analyte	Concentration (mg/L)		RPD (≤35)	
	HAR-04_042011_01F	2		
Antimony	0.000081	0.00030U	115	no qual. <i>5X</i>
Arsenic	0.00043	0.00090U	71	no qual. ↓
Barium	0.026	0.028	7	
Cobalt	0.000036	0.00010U	94	no qual. <i>5X</i>
Copper	0.00056U	0.00067	18	
Nickel	0.00044	0.00050U	13	
Tin	0.00018	0.005U	186	no qual. <i>5X</i>
Vanadium	0.00075	0.00083	10	

V:\FIELD DUPLICATES\FD_inorganic\25528F4.WPD

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 20, 2011
LDC Report Date: May 31, 2011
Matrix: Water
Parameters: Hexachlorophene
Validation Level: Level V
Laboratory: TestAmerica, Inc./Lancaster Laboratories
Sample Delivery Group (SDG): IUD2042/HAL74

Sample Identification

HAR-04_042011_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8151A for Hexachlorophene.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hexachlorophene contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/(Matrix Spike) Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D 17116 (All samples in SDG IUD2042/HAL74)	Hexachlorophene	420 (14-79)	340 (14-79)	-	J (all detects)	P

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD2042/HAL74	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Samples HAR-04_042011_03 and HAR-04_042011_10 (from SDG 280-14865-1) were identified as split samples. No hexachlorophene contaminants were detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Data Qualification Summary - SDG IUD2042/HAL74**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2042/HAL74	HAR-04_042011_03	Hexachlorophene	J (all detects)	P	Laboratory control samples (%R) (L)
IUD2042/HAL74	HAR-04_042011_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Laboratory Blank Data Qualification Summary - SDG IUD2042/HAL74**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Field Blank Data Qualification Summary - SDG IUD2042/HAL74**

No Sample Data Qualified in this SDG

METHOD: GC Hexachlorophene (EPA SW 846 Method 8151A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client spec
VII.	Laboratory control samples	SW	ICS 1p
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates / split	ND	* S = 1 + HAR-04_042011-01 (280-14865-1)
XIII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	HAR-04_042011_03	11	PBLK 17116	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: * The primary lab analyzed sample by LCMS and MDL is 10x higher than the split lab.

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 20, 2011
LDC Report Date: June 17, 2011
Matrix: Water
Parameters: Herbicides
Validation Level: Level V
Laboratory: TestAmerica, Inc./Weck Laboratories, Inc.
Sample Delivery Group (SDG): IUD2042/1D22017

Sample Identification

HAR-04_042011_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8151A for Herbicides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No herbicide contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/(Matrix Spike) Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

***VII. Laboratory Control Samples**

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
W1D1029-BS1/BSD1 (All samples in SDG IUD2042/1D22017)	Dinoseb	-	-	31 (≤25)	J (all detects) UJ (all non-detects)	P

*Removed 2,4-DB and 4-Nitrophenol from table above.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD2042/1D22017	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Samples HAR-04_042011_03 and HAR-04_042011_01 (from SDG 280-14865-1) were identified as split samples. No herbicide contaminants were detected in any of the samples.

Boeing SSFL GW 2nd Qtr, 2011*Herbicides - Data Qualification Summary - SDG IUD2042/1D22017**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2042/1D22017	HAR-04_042011_03	Dinoseb	J (all detects) UJ (all non-detects)	P	Laboratory control samples (RPD) (E)
IUD2042/1D22017	HAR-04_042011_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011**Herbicides - Laboratory Blank Data Qualification Summary - SDG IUD2042/1D22017**

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011**Herbicides - Field Blank Data Qualification Summary - SDG IUD2042/1D22017**

No Sample Data Qualified in this SDG

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	SW	LCS 1D
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates / Split	ND	S = 1 + HAR-04-042011-01 (280-14865-1)
XIII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	HAR-04_042011_03	11	W1D1029-Blk1	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

VALIDATION FINDINGS WORKSHEET

METHOD: GC HPLC

8310	8330	8151	8141	8141 (Cont'd)	8021B
A. Acenaphthene	A. HMX	A. 2,4-D	A. Dichlorvos	V. Fensulfothion	V. Benzene
B. Acenaphthylene	B. RDX	B. 2,4-DB	B. Mevinphos	W. Bolstar	CC. Toluene
C. Anthracene	C. 1,3,5-Trinitrobenzene	C. 2,4,5-T	C. Demeton-O	X. EPN	EE. Ethyl Benzene
D. Benzo(a)anthracene	D. 1,3-Dinitrobenzene	D. 2,4,5-TP	D. Demeton-S	Y. Azinphos-methyl	SSS. O-Xylene
E. Benzo(a)pyrene	E. Tetryl	E. Dinoseb	E. Ethoprop	Z. Coumaphos	RRR. MP-Xylene
F. Benzo(b)fluoranthene	F. Nitrobenzene	F. Dichlorprop	F. Naled	AA. Parathion	GG. Total Xylene
G. Benzo(g,h,i)perylene	G. 2,4,6-Trinitrotoluene	G. Dicamba	G. Sulfotep	BB. Trichloronate	
H. Benzo(k)fluoranthene	H. 4-Amino-2,6-dinitrotoluene	H. Dalapon	H. Phorate	CC. Trichlorinate	
I. Chrysene	I. 2-Amino-4,6-dinitrotoluene	I. MCPP	I. Dimethoate	DD. Trifluralin	
J. Dibenzo(a,h)anthracene	J. 2,4-Dinitrotoluene	J. MCPA	J. Diazinon	EE. Def	
K. Fluoranthene	K. 2,6-Dinitrotoluene	K. Pentachlorophenol	K. Disulfoton	FF. Prowl	
L. Fluorene	L. 2-Nitrotoluene	L. 2,4,5-TP (silvex)	L. Parathion-methyl	GG. Ethion	
M. Indeno(1,2,3-cd)pyrene	M. 3-Nitrotoluene	M. Silvex	M. Ronnel		
N. Naphthalene	N. 4-Nitrotoluene	N. 4-Nitrophenol	N. Malathion		
O. Phenanthrene	O. Nitroglycerin		O. Chlorpyrifos		
P. Pyrene	P.		P. Fenthion		
Q.	Q		Q. Parathion-ethyl		
R.			R. Trichloronate		
S.			S. Merphos		
			T. Stirofos		
			U. Tokuthion		

Notes:



THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue, Suite 100, Irvine, CA 92614 (949) 261-1022 Fax: (949) 260-3297

MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Sarah VonRaesfeld	Project ID: Groundwater SSFL 2011 - Q2 [none] Report Number: IUD2042	Sampled: 04/20/11 Received: 04/20/11
---	--	---

Chlorinated Herbicides

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IUD2042-01 (HAR-04_042011_03 - Water)									
Reporting Units: ug/l									
2,4-D	EPA 8151A	W1D1029	N/A	0.50	ND	1	04/26/11	05/06/11	
2,4,5-T	EPA 8151A	W1D1029	N/A	0.25	ND	1	04/26/11	05/06/11	
2,4,5-TP (Silvex)	EPA 8151A	W1D1029	N/A	0.25	ND	1	04/26/11	05/06/11	
Dinoseb	EPA 8151A	W1D1029	N/A	0.50	ND	1	04/26/11	05/06/11	
Surrogate: 2,4-DCAA (56-156%)					112 %				

TestAmerica Irvine

Debby Wilson
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from TestAmerica.

IUD2042 <Page 23 of 76>

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 20, 2011
LDC Report Date: June 2, 2011
Matrix: Water
Parameters: Wet Chemistry
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): IUD2042

Sample Identification

HAR-04_042011_03
HAR-04_042011_03DUP

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 350.1 for Ammonia as Nitrogen, EPA Method 300.0 for Fluoride and Nitrate, EPA SW 846 Method 9014 for Cyanide, EPA Method 314.0 for Perchlorate, EPA SW 846 Method 9040B for pH, and Standard Method 4500-S C,D for Sulfide.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

Raw data were not reviewed for this SDG. The review was based on QC data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
PB (prep blank)	Sulfide	0.0230 mg/L	All samples in SDG IUD2042

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
HAR-04_042011_03	Sulfide	0.051 mg/L	0.051U mg/L

No field blanks were identified in this SDG.

V. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG IUD2042	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

Samples HAR-04_042011_03 and HAR-04_042011_01 (from SDG 280-14865-1) were identified as split samples. No contaminant concentrations were detected in any of the samples with the following exceptions:

Analyte	Concentration		RPD (Limits)	Flag	A or P
	HAR-04_042011_03	HAR-04_042011_01			
Fluoride	0.68 mg/L	0.88 mg/L	26 (≤ 35)	-	-
Nitrate	5.5 mg/L	5.9 mg/L	7 (≤ 35)	-	-
Perchlorate	1.9 ug/L	1.5 ug/L	24 (≤ 35)	-	-
Sulfide	0.051 mg/L	0.0070U mg/L	152 (≤ 35)	NQ	-
pH	6.9 units	6.65 units	4 (≤ 35)	-	-

NQ = One or both results were $< 5x$ the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG IUD2042**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
IUD2042	HAR-04_042011_03	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG IUD2042**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
IUD2042	HAR-04_042011_03	Sulfide	0.051U mg/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

LDC #: 25528F6

VALIDATION COMPLETENESS WORKSHEET

Date: 6-1-11

SDG #: IUD2042/4D22017

Level V

Page: 1 of 1

Laboratory: Test America Inc. ~~Weck Laboratories, Inc.~~

MA

Reviewer: MG

2nd Reviewer:

MA

METHOD: (Analyte) Ammonia-N (EPA Method 350.1), Fluoride, Nitrate, (EPA Method 300.0), Cyanide (EPA SW846 Method 9014), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B), Sulfide (SM4500-S/D)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

(SM4500-S C,D)

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4-20-11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	SW	
IV	Matrix Spike/Matrix Spike Duplicates	N	client specified
V	Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	SW	S = 1 + HAR-04_042011-01 (SDG: 280-14865-1)
X	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
water

1	HAR-04_042011_03	11		21		31	
2	HAR-04_042011_03DUP	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20	PBW	30		40	

Notes: _____

VALIDATION FINDINGS WORKSHEET

Blanks

METHOD: inorganics, Method See Cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N. N/A. Were blank analyses performed as required? If no, please see qualifications below.

(Y) N. N/A. Were any activities in the blanks greater than the minimum detectable activity? If yes, please see qualifications below.

Conc. units: mg/L Associated Samples: all Qual: U (B)

Analyte	Blank ID	Blank ID	Blank Action Limit						
	PB	ICB/CCB (mg/L)							
Sulfide	0.0230		0.115						

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 All contaminants within five times the method blank concentration were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Inorganics, Method See Cover

Y N NA
Y N NA

Were field duplicate pairs identified in this SDG?
 Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	HAR-04_042011_01	1		
Fluoride	0.88	0.68	26	
Nitrate	5.9	5.5	7	
Perchlorate (ug/L)	1.5	1.9	24	
Sulfide	0.0070U	0.051	152	no qual. <u>CSM</u>
pH (pH units)	6.65	6.9	4	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 20, 2011
LDC Report Date: May 31, 2011
Matrix: Water
Parameters: Total Petroleum Hydrocarbons as Extractables
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): IUD2042

Sample Identification

HAR-04_042011_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were EPA SW 846 Method 8015B for Total Petroleum Hydrocarbons (TPH) as Extractables.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as extractable contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there was insufficient sample volume for analysis of the matrix spike and matrix spike duplicate.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG:

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD2042	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Samples HAR-04_042011_03 and HAR-04_042011_01 (from SDG 280-14865-1) were identified as split samples. No total petroleum hydrocarbons as extractable contaminants were detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
Diesel Range Organics - Data Qualification Summary - SDG IUD2042**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2042	HAR-04_042011_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Diesel Range Organics - Laboratory Blank Data Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Diesel Range Organics - Field Blank Data Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

LDC #: 25528F8
 SDG #: IUD2042
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/27/11
 Page: 1 of 1
 Reviewer: SVL
 2nd Reviewer: 9

METHOD: GC TPH as Extractables (EPA SW846 Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	Insufficient vol
VII.	Laboratory control samples	A	LCS / D
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates / split	ND	S = 1 + HAR-04_042011-01 (280-14865-1)
XIII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: Water

1	HAR-04_042011_03	11	11D 3215- B1E1	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 20, 2011
LDC Report Date: May 31, 2011
Matrix: Water
Parameters: 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): IUD2042

Sample Identification

HAR-04_042011_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 504.1 for 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD2042	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Samples HAR-04_042011_03 and HAR-04_042011_01 (from SDG 280-14865-1) were identified as split samples. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Data Qualification Summary -
 SDG IUD2042**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2042	HAR-04_042011_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Laboratory Blank Data
 Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Field Blank Data Qualification
 Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

LDC #: 25528F10
 SDG #: IUD2042
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/27/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC 1,2-Dibromomethane & 1,2-Dibromo-3-chloropropane (EPA Method 504.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	UCS 1b
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates / split	ND	S = 1 + HAR-04_042011_01 (280-14865-1)
XIII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	HAR-04_042011_03	11	11 D 3221 - Blk	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 20, 2011
LDC Report Date: June 17, 2011
Matrix: Water
Parameters: Organophosphorus Pesticides
Validation Level: Level V
Laboratory: TestAmerica, Inc./Weck Laboratories, Inc.
Sample Delivery Group (SDG): IUD2042/1D22017

Sample Identification

HAR-04_042011_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8141A for Organophosphorus Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No organophosphorus pesticide contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

***VII. Laboratory Control Samples**

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

*Removed qualification table from this section.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD2042/1D22017	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Samples HAR-04_042011_03 and HAR-04_042011_01 (from SDG 280-14865-1) were identified as split samples. No organophosphorus pesticide contaminants were detected in any of the samples.

Boeing SSFL GW 2nd Qtr, 2011*Organophosphorus Pesticides - Data Qualification Summary - SDG IUD2042/1D22017**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2042/1D22017	HAR-04_042011_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011**Organophosphorus Pesticides - Laboratory Blank Data Qualification Summary - SDG IUD2042/1D22017**

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011**Organophosphorus Pesticides - Field Blank Data Qualification Summary - SDG IUD2042/1D22017**

No Sample Data Qualified in this SDG

METHOD: GC Organophosphorus Pesticides (EPA SW 846 Method 8141A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	SW	LCS / D
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates (Split)	ND	S = 1 + HAR-04_042011-01 (280-14865-1)
XIII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

1	HAR-04_042011_03	11	W1D0997 - Blk1	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

VALIDATION FINDINGS WORKSHEET

METHOD: GC HPLC

8310	8330	8151	8141	8141(Cont)	8021B
A. Acenaphthene	A. HMX	A. 2,4-D	A. Dichlorvas	V. Fensulfothion	V. Benzene
B. Acenaphthylene	B. RDX	B. 2,4-DB	B. Mevinphos	W. Bolstar	CC. Toluene
C. Anthracene	C. 1,3,5-Trinitrobenzene	C. 2,4,5-T	C. Demeton-O	X. EPN	EE. Ethyl Benzene
D. Benzo(a)anthracene	D. 1,3-Dinitrobenzene	D. 2,4,5-TP	D. Demeton-S	Y. Azinphos-methyl	SSS. O-Xylene
E. Benzo(a)pyrene	E. Tetlyl	E. Dinoseb	E. Ethnprop	Z. Coumaphos	RRR. MP-Xylene
F. Benzo(b)fluoranthene	F. Nitrobenzene	F. Dichlorprop	F. Naled	AA. Parathion	GG. Total Xylene
G. Benzo(g,h,i)perylene	G. 2,4,6-Trinitrotoluene	G. Dicamba	G. Sulfotep	BB. Trichloronate	
H. Benzo(k)fluoranthene	H. 4-Amino-2,6-dinitrotoluene	H. Dalapon	H. Phorate	CC. Trichlorinate	
I. Chrysene	I. 2-Amino-4,6-dinitrotoluene	I. MCPP	I. Dimethoate	DD. Trifluralin	
J. Dibenz(a,h)anthracene	J. 2,4-Dinitrotoluene	J. MCPA	J. Diazinon	EE. Def	
K. Fluoranthene	K. 2,6-Dinitrotoluene	K. Pentachlorophenol	K. Disulfoton	FF. Prowl	
L. Fluorene	L. 2-Nitrotoluene	L. 2,4,5-TP (silvex)	L. Parathion-methyl	GG. Ethion	
M. Indeno(1,2,3-cd)pyrene	M. 3-Nitrotoluene	M. Silvex	M. Ronnel	HH. Famphur	
N. Naphthalene	N. 4-Nitrotoluene		N. Malathion	II. Phosmet	
O. Phenanthrene	O. Nitroglycerin		O. Chlorpyrifos	JJ. Tetrachlorvinphos	
P. Pyrene	P.		P. Fenthion	KK. Demeton (total)	
Q.	Q		Q. Parathion-ethyl		
R.			R. Trichlorate		
S.			S. Merphos		
			T. Stirofos		
			U. Tokuthion		

Notes:

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: June 1, 2011

Matrix: Water

Parameters: Dioxins/Dibenzofurans

Validation Level: EPA Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUD2042/G1D2205

Sample Identification

HAR-04_042011_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Routine Calibration (Continuing)

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
1118141-BLK1	4/28/11	1,2,3,7,8-PeCD	2.4 pg/g	All samples in SDG IUD2042/G1D220529
		1,2,3,4,7,8-HxCDD	2.7 pg/g	
		1,2,3,6,7,8-HxCDD	2.6 pg/g	
		1,2,3,7,8,9-HxCDD	1.7 pg/g	
		1,2,3,4,6,7,8-HpCDD	7.1 pg/g	
		OCDD	57 pg/g	
		2,3,7,8-TCDF	2.3 pg/g	
		1,2,3,7,8-PeCDF	4.1 pg/g	
		2,3,4,7,8-PeCDF	3.2 pg/g	
		1,2,3,4,7,8-HxCDF	5 pg/g	
		1,2,3,6,7,8-HxCDF	4.5 pg/g	
		2,3,4,6,7,8-HxCDF	2.8 pg/g	
		1,2,3,7,8,9-HxCDF	2 pg/g	
		1,2,3,4,6,7,8-HpCDF	12 pg/g	
		1,2,3,4,7,8,9-HpCDF	4.2 pg/g	
		OCDF	21 pg/g	
		Total PeCDD	2.4 pg/g	
		Total HxCDD	12 pg/g	
		Total HpCDD	13 pg/g	
		Total TCDF	2.3 pg/g	
		Total PeCDF	7.3 pg/g	
		Total HxCDF	23 pg/g	
		Total HpCDF	23 pg/g	

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
HAR-04_042011_03	1,2,3,4,6,7,8-HpCDD	1.1 pg/g	1.1U pg/g
	OCDD	5.9 pg/g	5.9U pg/g
	1,2,3,4,6,7,8-HpCDF	1.4 pg/g	1.4U pg/g
	OCDF	3.8 pg/g	3.8U pg/g
	Total HxCDD	0.5 pg/g	0.5U pg/g
	Total HpCDD	2.3 pg/g	2.3U pg/g
	Total HpCDF	2.3 pg/g	2.3U pg/g

No field blanks were identified in this SDG.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

Internal standards data were not reviewed for Level V.

X. Target Compound Identifications

Raw data were not reviewed for this SDG.

XI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD2042/G1D220529	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XII. System Performance

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

Samples HAR-04_042011_03 and HAR-04_042011_01 (from SDG 280-14869-1) were identified as split samples. No polychlorinated dioxin/dibenzofurans were detected in any of the samples with the following exceptions:

Compound	Concentration (upg/g)		RPD (Limits)	Flag	A or P
	HAR-04_042011_01	HAR-04_042011_03			
1,2,3,4,6,7,8-HpCDD	51U	1.1	192	NQ	-
OCDD	100U	5.9	178	NQ	-
1,2,3,4,6,7,8-HpCDF	51U	1.4	189	NQ	-
OCDF	100U	3.8	185	NQ	-
Total HxCDD	Not reported	0.5	Not Calculable	-	-
Total HpCDD	Not reported	2.3	Not Calculable	-	-
Total HpCDF	Not reported	2.3	Not Calculable	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Data Qualification Summary - SDG IUD2042/G1D220529**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2042/G1D220529	HAR-04_042011_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG IUD2042/G1D220529**

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
IUD2042/G1D220529	HAR-04_042011_03	1,2,3,4,6,7,8-HpCDD OCDD 1,2,3,4,6,7,8-HpCDF OCDF Total HxCDD Total HpCDD Total HpCDF	1.1U pg/g 5.9U pg/g 1.4U pg/g 3.8U pg/g 0.5U pg/g 2.3U pg/g 2.3U pg/g	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG IUD2042/G1D220529**

No Sample Data Qualified in this SDG

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II.	HRGC/HRMS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Routine calibration/ICV	N	
V.	Blanks	SW	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	A	ICS
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	N	
X.	Target compound identifications	N	
XI.	Compound quantitation and CRQLs	N	
XII.	System performance	N	
XIII.	Overall assessment of data	N	
XIV.	Field duplicates / Split	SW	S = 1 + HAR -04_042011_01 (286-14869-1)
XV.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	HAR-04_042011_03	11	118 141- BIK 1	21		31	
2		12	↓ - BIK Y	(TCPDF 22 cm.)		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

VALIDATION FINDINGS WORKSHEET

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

A. 2,3,7,8-TCDD	F. 1,2,3,4,6,7,8-HpCDD	K. 1,2,3,4,7,8-HxCDF	P. 1,2,3,4,7,8,9-HpCDF	U. Total HpCDD
B. 1,2,3,7,8-PeCDD	G. OCDD	L. 1,2,3,6,7,8-HxCDF	Q. OCDF	V. Total TCDF
C. 1,2,3,4,7,8-HxCDD	H. 2,3,7,8-TCDF	M. 2,3,4,6,7,8-HxCDF	R. Total TCDD	W. Total PeCDF
D. 1,2,3,6,7,8-HxCDD	I. 1,2,3,7,8-PeCDF	N. 1,2,3,7,8,9-HxCDF	S. Total PeCDD	X. Total HxCDF
E. 1,2,3,7,8,9-HxCDD	J. 2,3,4,7,8-PeCDF	O. 1,2,3,4,6,7,8-HpCDF	T. Total HxCDD	Y. Total HpCDF

Notes:

VALIDATION FINDINGS WORKSHEET

Blanks

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- Y/N N/A Were all samples associated with a method blank?
- Y/N N/A Was a method blank performed for each matrix and whenever a sample extraction was performed?
- Y/N N/A Was the method blank contaminated?

Blank extraction date: 4/28/11 Blank analysis date: 4/30/11 Associated samples: All Code: B
 Conc. units: pg/g

Compound	Blank ID	Sample Identification				
		5x	1			
	1118141-BLK					
B. 1,2,3,7,8-PeCD	2.4	12.00				
C. 1,2,3,4,7,8-HxCDD	2.7*	13.50				
D. 1,2,3,6,7,8-HxCDD	2.6*	13.00				
E. 1,2,3,7,8,9-HxCDD	1.7*	8.50				
F. 1,2,3,4,6,7,8-HpCDD	7.1	35.50	1.1U			
G. OCDD	57	285.00	5.9U			
H. 2,3,7,8-TCDF	2.3	11.50				
I. 1,2,3,7,8-PeCDF	4.1	20.50				
J. 2,3,4,7,8-PeCDF	3.2	16.00				
K. 1,2,3,4,7,8-HxCDF	5	25.00				
L. 1,2,3,6,7,8-HxCDF	4.5	22.50				
M. 2,3,4,6,7,8-HxCDF	2.8*	14.00				
N. 1,2,3,7,8,9-HxCDF	2*	10.00				
O. 1,2,3,4,6,7,8-HpCDF	12	60.00	1.4U			
P. 1,2,3,4,7,8,9-HpCDF	4.2*	21.00				

VALIDATION FINDINGS WORKSHEET
Field Splits

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

Y N NA Were field split pairs identified in this SDG?
Y N NA Were target analytes detected in the field split pairs?

Compound	Concentration (pg/g)		(<35%) RPD	Qualifications (Parent Only)
	HAR-04_042011_01	HAR-04_042011_03		
F	51U	1.1	192	NQ (<5XRL)
G	100U	5.9	178	NQ (<5XRL)
O	51U	1.4	189	NQ (<5XRL)
Q	100U	3.8	185	NQ (<5XRL)
T	NR	0.5	NC	
U	NR	2.3	NC	
Y	NR	2.3	NC	

NR = Not reported
 NC = Not calculable
 NQ = Not qualified

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: May 31, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUD2042/HAL74

Sample Identification

HAR-04_042011_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD2042/HAL74	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Samples HAR-04_042011_03 and HAR-04_042011_01 (from SDG 280-14865-1) were identified as split samples. No formaldehyde was detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Data Qualification Summary - SDG IUD2042/HAL74**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14865-1/ A1D210577	HAR-04_042011_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Laboratory Blank Data Qualification Summary - SDG IUD2042/HAL74**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Field Blank Data Qualification Summary - SDG IUD2042/HAL74**

No Sample Data Qualified in this SDG

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/20/11</u>
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	<u>client spec</u>
VII.	Laboratory control samples	A	<u>LCS 10</u>
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates <u>/split</u>	ND	<u>S = 1 + HAR-04-042011-01 (280-14865-1)</u>
XIII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	HAR-04_042011_03	11	<u>PBLK 11112</u>	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 20, 2011
LDC Report Date: May 31, 2011
Matrix: Water
Parameters: Hydrazines
Validation Level: Level V
Laboratory: TestAmerica, Inc./Lancaster Laboratories
Sample Delivery Group (SDG): IUD2042/HAL74

Sample Identification

HAR-04_042011_03
HAR-04_042011_03MS
HAR-04_042011_03MSD

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315M for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazines were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD2042/HAL74	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Samples HAR-04_042011_03 and HAR-04_042011_01 (from SDG 280-14865-1) were identified as split samples. No hydrazines were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-04_042011_03	HAR-04_042011_01			
Hydrazine	0.10U	0.68	149 (≤35)	NQ	-
Monomethyl hydrazine	0.50U	0.78	44 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Data Qualification Summary - SDG IUD2042/HAL74**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2042/HAL74	HAR-04_042011_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG IUD2042/HAL74**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG IUD2042/HAL74**

No Sample Data Qualified in this SDG

METHOD: HPLC Hydrazines (Method EPA SW 846 method 8315M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>9/20/11</u>
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	A	
VII.	Laboratory control samples	A	<u>LCS (D)</u>
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates <u>/ split</u>	SW	<u>S = 1 + HAR-04_042011_01 (250-14865-1)</u>
XIII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: Water

1	HAR-04_042011_03	11	111500 BLK	21	31
2	HAR-04_042011_03 MS	12		22	32
3	HAR-04_042011_03 MSD	13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

VALIDATION FINDINGS WORKSHEET
Field Split**METHOD:** HPLC Hydrazines (EPA SW 846 Method 8315M/Method DVWC-0077)

Y N NA Were field split pairs identified in this SDG?
Y N NA Were target analytes detected in the field split pairs?

Compound	Concentration (ug/L)		(<35) RPD	Qualifications (Parent only)
	HAR-04_042011_01	HAR-04_042011_03		
Hydrazine	0.68	0.10U	149	NQ (<5xRL)
Monomethyl hydrazine	0.78	0.50U	44	NQ (<5xRL)

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: May 31, 2011

Matrix: Water

Parameters: Perchlorate

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUD2042

Sample Identification

HAR-04_042011_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 6860 for Perchlorate.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No perchlorate was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD2042	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Samples HAR-04_042011_03 and HAR-04_042011_01 (from SDG 280-14865-1) were identified as split samples. No perchlorate was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-04_042011_03	HAR-04_042011_01			
Perchlorate	1.5	1.5	0 (≤35)	-	-

**Boeing SSFL GW 1st Qtr, 2011
Perchlorate - Data Qualification Summary - SDG IUD2042**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2042	HAR-04_042011_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 1st Qtr, 2011
Perchlorate - Laboratory Blank Data Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 1st Qtr, 2011
Perchlorate - Field Blank Data Qualification Summary - SDG IUD2042**

No Sample Data Qualified in this SDG

LDC #: 25528F87

VALIDATION COMPLETENESS WORKSHEET

Date: 5/27/11

SDG #: IUD2042

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: *[Signature]*

2nd Reviewer: *[Signature]*

METHOD: LC/MS Perchlorate (EPA SW846 Method 6860)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LC5
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates /split	SW	S = 1 + HAR-04_042011-01 (280-14865-1)
XVII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: *Water*

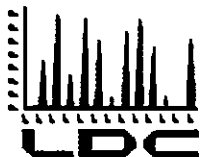
+		-				
1	HAR-04_042011_03	11	11 D 3608-blk1	21		31
2		12		22		32
3		13		23		33
4		14		24		34
5		15		25		35
6		16		26		36
7		17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

VALIDATION FINDINGS WORKSHEET
Field Split

METHOD: LC MS Perchlorate (EPA SW 846 Method 6860)

Y/N/NA Were field split pairs identified in this SDG?
Y/N/NA Were target analytes detected in the field split pairs?

Compound	Concentration (ug/L)		(<35) RPD	Qualifications (Parent only)
	HAR-04_042011_01	HAR-04_042011_03		
Perchlorate	1.5	1.5	0	



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

June 16, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

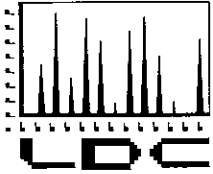
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 24, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25528:

<u>SDG #</u>	<u>Fraction</u>
280-15069-1/IUD2837/ A1D270448	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Pentachlorophenol, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane, Organophosphorus Pesticides, Hexachlorophene, Formaldehyde, Hydrazine
280-15126-1/IUD2827/ A1D280509	
280-15184-1/IUD2933/ A1D290602	
280-15257-1/IUE0199/ A1D300419	
280-15257-2	N-Nitrosodimethylamine
IUD2042	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Hexachlorophene, Herbicides, Wet Chemistry TPH as Extractables, 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane, Organophosphorus Pesticides, Dioxins/Dibenzofurans, Formaldehyde, Hydrazine, Perchlorate
IUD2221	Volatiles, 1,4-Dioxane, Semivolatiles, N-Nitrosodimethylamine, Polychlorinated Biphenyls, Dissolved Metals, Wet Chemistry, TPH as Extractables, Dioxins/Dibenzofurans, Formaldehyde, Hydrazine

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009



- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

Client Select IV LDC #25528 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE RECD	(3) DATE DUE	VOA (8260B)		1,4-Dioxane (8260B-S)		1,2,3-TCP (524.2)		SVOA (8270C-SIM)		SVOA (8270C-LL)		PCP (8270C-LL)		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (OK-DEQ)		EDB (504.1)		Formaldehyde (8315)		Hexachlorophene (8321A)		OPHS Pest. (8141A)		Herbs (8151A)					
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S				
Matrix: Water/Soil																																									
A	280-15069-1/ IUD2837/ A1D270448	05/24/11	06/15/11	11	0	10	0	2	0	7	0	2	0	1	0	7	0	1	0	3	0	3	0	3	0	5	0	4	0	2	0	7	0	1	0	1	0	1	0	1	0
B	280-15126-1/ IUD2827/ A1D280509	05/24/11	06/15/11	6	0	6	0	4	0	-	3	0	3	0	3	0	3	0	3	0	3	0	3	0	3	0	3	0	6	0	3	0	3	0	3	0	3	0	3	0	
C	280-15184-1/ IUD2933/ A1D290602	05/24/11	06/15/11	9	0	9	0	2	0	6	0	5	0	1	0	6	0	1	0	6	0	1	0	6	0	6	0	6	0	2	0	6	0	1	0	1	0	1	0	1	0
D	280-15257-1/ IUE0199/ A1D300419	05/24/11	06/15/11	11	0	11	0	5	0	7	0	4	0	1	0	5	0	1	0	7	0	1	0	7	0	7	0	7	0	2	0	3	0	1	0	1	0	1	0	1	0
E	280-15257-2	05/24/11	06/15/11	-	-	-	-	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
F	IUD2042	05/24/11	06/15/11	1	0	1	0	1	0	-	-	-	-	-	-	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0
G	IUD2221	05/24/11	06/15/11	1	0	1	0	-	-	1	0	1	0	-	-	1	0	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total	T/PG			39	0	38	0	16	0	26	0	12	0	6	0	25	0	7	0	21	0	9	0	23	0	22	0	13	0	21	0	7	0	7	0	7	0	7	0	7	299

Client Select IV LDC #25528 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE RECD	(3) DATE DUE	Dioxins (8290)		CLO ₄ (6860)		1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydrazine (DVWC)		Alk. (2320B)		NH ₃ -N (350.1)		Cl SO ₄ (300.0)		F NO ₃ (300.0)		Br NO ₂ -N O-PO ₄		Cr(VI) & Diss. Cr(VI)		CN- (9012A)		Cond. (2510B)		CLO ₂ (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)					
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S		
Matrix: Water/Soil																																									
A	280-15069-1	05/24/11	06/15/11	-	-	-	-	5	0	5	0	5	0	2	0	5	0	4	0	7	0	2	0	2	0	2	0	1	0	2	0	5	0	5	0	2	0	2	0	2	0
B	280-15126-1	05/24/11	06/15/11	-	-	-	-	3	0	2	0	2	0	1	0	3	0	1	0	3	0	-	-	-	-	-	-	3	0	1	0	3	0	3	0	3	0	1	0	1	0
C	280-15184-1	05/24/11	06/15/11	-	-	-	-	2	0	2	0	2	0	1	0	2	0	6	0	6	0	5	0	4	0	4	0	1	0	1	0	2	0	2	0	2	0	1	0	1	0
D	280-15257-1	05/24/11	06/15/11	-	-	-	-	1	0	-	-	2	0	1	0	1	0	3	0	3	0	2	0	2	0	2	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0
F	IUD2042/HAL74/ G1D220529/ 1D22017	05/24/11	06/15/11	1	0	1	0	1	0	1	0	1	0	-	-	1	0	-	-	1	0	-	-	-	-	-	1	0	-	-	1	0	1	0	1	0	1	0	1	0	
G	IUD2221/ HAL74/ G1D260546	05/24/11	06/15/11	1	0	-	-	1	0	1	0	1	0	-	-	-	-	1	0	1	0	1	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total	T/PG			2	0	1	0	13	0	11	0	13	0	5	0	12	0	15	0	21	0	10	0	8	0	7	0	5	0	12	0	12	0	12	0	5	0	5	0	157	

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 21, 2011

LDC Report Date: May 31, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUD2221

Sample Identification

PZ-140_042111_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Compound	Total Days From Sample Collection Until Analysis	Required Holding Time (in Days) From Sample Collection Until Analysis	Flag	A or P
PZ-140_042111_03	Benzene Toluene Chlorobenzene Ethylbenzene Styrene Xylenes, total 2-Chloroethylvinyl ether Isopropylbenzene Bromobenzene n-Propylbenzene 2-Chlorotoluene 1,3,5-Trimethylbenzene 4-Chlorotoluene tert-Butylbenzene 1,2,4-Trimethylbenzene sec-Butylbenzene 1,3-Dichlorobenzene p-Isopropyltoluene 1,4-Dichlorobenzene n-Butylbenzene 1,2-Dichlorobenzene 1,2,4-Trichlorobenzene 1,2,3-Trichlorobenzene m,p-Xylenes o-Xylene Acrolein Acrylonitrile	13	7	J (all detects) UJ (all non-detects)	P

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Sample TB_PZ-140_042111 (from SDG 280-14927-1) was identified as a trip blank. No volatile contaminants were found in this blank.

Sample EB_PZ-140_042111 (from SDG 280-14927-1) was identified as an equipment blank. No volatile contaminants were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-140_042111	4/21/10	Chloroform	0.47 ug/L	All samples in SDG IUD2221

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No volatile contaminants were found in this blank.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDGIUD2221	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples PZ-140_042111_03 and PZ-140_042111_01 (from SDG 280-14927-1) were identified as split samples. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	PZ-140_042111_01	PZ-140_042111_03			
Benzene	0.36	0.34	6 (≤35)	-	-
Chloroform	0.17	1.0U	142 (≤35)	NQ	-
cis-1,2-Dichloroethene	7.1	7.3	3 (≤35)	-	-
Trichloroethene	130	140	7 (≤35)	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Data Qualification Summary - SDG IUD2221**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2221	PZ-140_042111_03	Benzene Toluene Chlorobenzene Ethylbenzene Styrene Xylenes, total 2-Chloroethylvinyl ether Isopropylbenzene Bromobenzene n-Propylbenzene 2-Chlorotoluene 1,3,5-Trimethylbenzene 4-Chlorotoluene tert-Butylbenzene 1,2,4-Trimethylbenzene sec-Butylbenzene 1,3-Dichlorobenzene p-Isopropyltoluene 1,4-Dichlorobenzene n-Butylbenzene 1,2-Dichlorobenzene 1,2,4-Trichlorobenzene 1,2,3-Trichlorobenzene m,p-Xylenes o-Xylene Acrolein Acrylonitrile	J (all detects) UJ (all non-detects)	P	Technical holding times (H)
IUD2221	PZ-140_042111_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG IUD2221**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG IUD2221**

No Sample Data Qualified in this SDG

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: 4/21/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / split	SW	S = 1 + PZ-140-042111-01 (280-14927-1)
XVII.	Field blanks	SW	TB = TB_PZ-140-042111 EB = EB_PZ-140-042111 FB = FB_041411-19 (280-14655-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: *Water*

1	PZ-140_042111_03	11	11E0048-Blk1	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC. 1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl chloride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

VALIDATION FINDINGS WORKSHEET
Field Split

METHOD: GC MS VOA (EPA SW 846 Method 8260B)

Y N NA Were field split pairs identified in this SDG?

Y N NA Were target analytes detected in the field split pairs?

Compound	Concentration (ug/L)		(≤35)	Qualifications (Parent only)
	PZ-140_042111_01	PZ-140_042111_03	RPD	
Benzene	0.36	0.34	6	
Chloroform	0.17	1.0U	142	NQ(<5XRL)
cis-1,2-Dichloroethene	7.1	7.3	3	
Trichloroethene	130	140	7	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 21, 2011

LDC Report Date: May 31, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUD2221

Sample Identification

PZ-140_042111_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-dioxane was found in the method blanks.

Sample EB_PZ-140_042111 (from SDG 280-14927-1) was identified as an equipment blank. No 1,4-dioxane was found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No 1,4-dioxane was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD2221	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples PZ-140_042111_03 and PZ-140_042111_01 (from SDG 280-14927-1) were identified as split samples. No 1,4-Dioxane was detected in any of the samples.

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG IUD2221**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2221	PZ-140_042111_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG IUD2221**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG IUD2221**

No Sample Data Qualified in this SDG

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/21/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	X	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	ICS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / Split	ND	S = 1 + PZ-140-042111-01 (280-149271)
XVII.	Field blanks	ND	EB = EB-PZ-140-042111 FB = FB-041411-19 (250-14655-1)

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

1	PZ-140_042111_03	11	11 D 3034-BURP1	31	
2		12		32	
3		13		33	
4		14		34	
5		15		35	
6		16		36	
7		17		37	
8		18		38	
9		19		39	
10		20		40	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 21, 2011

LDC Report Date: May 31, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUD2221

Sample Identification

PZ-140_042111_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks

Sample EB_PZ-140_042111 (from SDG 280-14927-1) was identified as an equipment blank. No semivolatile contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No semivolatile contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there was insufficient sample volume for analysis of the matrix spike and matrix spike duplicate.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDGIUD2221	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples PZ-140_042111_03 and PZ-140_042111_01 (from SDG 280-14927-1) were identified as split samples. No semivolatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	PZ-140_042111_01	PZ-140_042111_03			
Bis(2-ethylhexyl)phthalate	1.0	47U	192 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG IUD2221**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2221	PZ-140_042111_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG IUD2221**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG IUD2221**

No Sample Data Qualified in this SDG

LDC #: 25528G2a
 SDG #: IUD2221
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/27/11
 Page: 1 of 1
 Reviewer: *[Signature]*
 2nd Reviewer: *[Signature]*

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/21/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Insufficient vol.
VIII.	Laboratory control samples	A	LCS / D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / Split	SW	S = 1 + PZ-140-04211-01 (280-19907-1)
XVII.	Field blanks	MD	EB = EB-PZ-140-04211 ↓ FB = FB-041411-19 (280-19605-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: *Water*

1	PZ-140_042111_03	11	11 D03888-Blk1	21	31
2		12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

VALIDATION FINDINGS WORKSHEET
Field Split

METHOD: GC MS SVOA (EPA SW 846 Method 8270C)

- Y N NA Were field split pairs identified in this SDG?
- Y N NA Were target analytes detected in the field split pairs?

Compound	Concentration (ug/L)		(≤35)	Qualifications
	PZ-140_042111_01	PZ-140_042111_03	RPD	(Parent only)
Bis(2-ethylhexyl) phthalate	1.0	47U	192	NQ (<5xRL)

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 21, 2011

LDC Report Date: June 1, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUD2221

Sample Identification

PZ-140_042111_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-nitrosodimethylamine was found in the method blanks.

Sample EB_PZ-140_042111 (from SDG 280-14927-1) was identified as an equipment blank. No N-nitrosodimethylamine was found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No N-nitrosodimethylamine was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there was insufficient sample volume for analysis of the matrix spike and matrix spike duplicate.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDGIUD2221	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples PZ-140_042111_03 and PZ-140_042111_01 (from SDG 280-14927-1) were identified as split samples. No N-nitrosodimethylamine was detected in any of the samples.

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Data Qualification Summary - SDG IUD2221**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2221	PZ-140_042111_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary – SDG IUD2221**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG IUD2221**

No Sample Data Qualified in this SDG

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/21/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	Insufficient vol.
VIII.	Laboratory control samples	A	res / D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / Split	ND	S = 1 + PZ-140-042111-01 (250-149221)
XVII.	Field blanks	ND	EB = EB-PZ-140-042111 ↓

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

FB = FB-041411-19 (250-14655-1)
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	PZ-140_042111_03	11	11 D 3467-Blk1	21		31
2		12		22		32
3		13		23		33
4		14		24		34
5		15		25		35
6		16		26		36
7		17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 21, 2011

LDC Report Date: June 8, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUD2221

Sample Identification

PZ-140_042111_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per a modification of EPA SW 846 Method 8270C using Selected Ion Monitoring (SIM) for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

Sample EB_PZ-140_042111 (from SDG 280-14927-1) was identified as an equipment blank. No semivolatile contaminants were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-140_042111	4/21/11	Bis(2-ethylhexyl)phthalate Butylbenzylphthalate	0.18 ug/L 0.12 ug/L	PZ-140_042111_03

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No semivolatile contaminants were found in this blank.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD2221	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Samples PZ-140_042111_01 (from SDG 280-14927-1) and PZ-140_042111_03 were identified as split samples. No semivolatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	PZ-140_042111_01	PZ-140_042111_03			
Benzo(g,h,i)perylene	0.0043	9.4U	200 (≤35)	NQ	-
Dibenzo(a,h)anthracene	0.0057	19U	200 (≤35)	NQ	-
Bis(2-ethylhexyl) phthalate	0.31	9.4U	187 (≤35)	NQ	-
Butyl benzyl phthalate	0.15	9.4U	194 (≤35)	NQ	-
Di-n-butyl phthalate	0.057	9.4U	198 (≤35)	NQ	-
Diethyl phthalate	0.095	9.4U	196 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles- Data Qualification Summary - SDG IUD2221**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2221	PZ-140_042111_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles- Laboratory Blank Data Qualification Summary - SDG IUD2221**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles- Field Blank Data Qualification Summary - SDG IUD2221**

No Sample Data Qualified in this SDG

LDC #: 25528G2c
 SDG #: IUD2221
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 6/08/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/21/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	(from 8270C run)
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates (Split)	SW	S = 1 + PZ-140-042111-01 (280-14927-)
XVII.	Field blanks	SW	EB = EB-PZ-140-042111 ↓

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 *ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: Water

1	PZ-140_042111_03	11	1103088-Blank 1	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

VALIDATION FINDINGS WORKSHEET
Field Split

METHOD: GC MS SVOA (EPA SW 846 Method 8270C-SIM)

Y N NA Were field split pairs identified in this SDG?

Y N NA Were target analytes detected in the field split pairs?

Compound	Concentration (ug/L)		(<35) RPD	Qualifications (Parent only)
	PZ-140_042111_01	PZ-140_042111_03		
Benzo(g,h,i)perylene	0.0043	9.4U	200	NQ (<5XRL)
Dibenzo(a,h)anthracene	0.0057	19U	200	NQ (<5XRL)
Bis(2-ethylhexyl) phthalate	0.31	9.4U	187	NQ (<5XRL)
Butyl benzyl phthalate	0.15	9.4U	194	NQ (<5XRL)
Di-n-butyl phthalate	0.057	9.4U	198	NQ (<5XRL)
Diethyl phthalate	0.095	9.4U	196	NQ (<5XRL)

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 21, 2011

LDC Report Date: May 31, 2011

Matrix: Water

Parameters: Polychlorinated Biphenyls

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUD2221

Sample Identification

PZ-140_042111_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

Sample EB_PZ-140_042111 (from SDG 280-14927-1) was identified as an equipment blank. No polychlorinated biphenyl contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No polychlorinated biphenyl contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there was insufficient sample volume for analysis of the matrix spike and matrix spike duplicate.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

Raw data were not reviewed for this SDG.

XIII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD2221	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

No field duplicates were identified in this SDG.

Samples PZ-140_042111_03 and PZ-140_042111_01 (from SDG 280-14927-1) were identified as split samples. No polychlorinated biphenyls were detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
Polychlorinated Biphenyls - Data Qualification Summary - SDG IUD2221**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2221	PZ-140_042111_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG IUD2221**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG IUD2221**

No Sample Data Qualified in this SDG

LDC #: 25528G3b
 SDG #: IUD2221
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 5/27/11
 Page: 1 of 1
 Reviewer: JVG
 2nd Reviewer: [Signature]

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/21/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Insufficient vol.
VIII.	Laboratory control samples	A	LCS 1D
IX.	Regional quality assurance and quality control	N	
X.	Florisil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation and reported CRQLs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates / Split	N	S = 1 + P2-140-042111_01 (280-14927-1)
XVI.	Field blanks	N	EB = EB-P2-140-042111 ↓

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

FB = FB-041411-19 (280-14655-1)
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	PZ-140_042111_03	11	11 D3032-BIK1	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 21, 2011

LDC Report Date: June 2, 2011

Matrix: Water

Parameters: Dissolved Metals

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUD2221

Sample Identification

PZ-140_042111_03

PZ-140_042111_03MS

PZ-140_042111_03MSD

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B, 6020, and 7000 for Dissolved Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No dissolved metal contaminants were found in the preparation blanks.

Sample EB_PZ-140_042111 (from SDG 280-14927-1) was identified as an equipment blank. No dissolved metal contaminants were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_PZ-140_042111	4/21/11	Calcium Sodium	0.037 mg/L 0.32 mg/L	All samples in SDG IUD2221

Sample FB_041411_19F (from SDG 280-14655-1) was identified as a field blank. No dissolved metal contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_041411_19F	4/14/11	Iron Manganese Sodium Tin	0.082 mg/L 0.0012 mg/L 0.29 mg/L 0.00017 mg/L	All samples in SDG IUD2221

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
PZ-140_042111_03	Iron	0.020 mg/L	0.020U mg/L

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution data were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG IUD2221	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Samples PZ-140_042111_03 and PZ-140_042111_01 (from SDG 280-14927-1) were identified as split samples. No dissolved metals were detected in any of the samples with the following exceptions:

Compound	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	PZ-140_042111_03	PZ-140_042111_01			
Antimony	0.00051	0.0031U	143 (≤35)	NQ	-
Arsenic	0.00090U	0.00069	26 (≤35)	-	-
Barium	0.059	0.061	3 (≤35)	-	-
Boron	0.053	0.047	12 (≤35)	-	-
Cadmium	0.00012	0.000063	62 (≤35)	NQ	-
Calcium	130	110	17 (≤35)	-	-
Cobalt	0.00058	0.00054	7 (≤35)	-	-
Copper	0.00050	0.00056U	11 (≤35)	-	-
Iron	0.020	0.022U	10 (≤35)	-	-
Magnesium	39	37	5 (≤35)	-	-
Manganese	0.066	0.071	7 (≤35)	-	-
Nickel	0.0026	0.0035	30 (≤35)	-	-
Potassium	3.1	3.3	6 (≤35)	-	-
Selenium	0.0015	0.0013	14 (≤35)	-	-
Sodium	71	74	4 (≤35)	-	-
Thallium	0.00020U	0.000037	138 (≤35)	NQ	-

Compound	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	PZ-140_042111_03	PZ-140_042111_01			
Vanadium	0.00086	0.0011	24 (≤35)	-	-
Molybdenum	0.0030	0.0025	18 (≤35)	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Data Qualification Summary - SDG IUD2221**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
IUD2221	PZ-140_042111_03	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Laboratory Blank Data Qualification Summary - SDG IUD2221**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Metals - Field Blank Data Qualification Summary - SDG IUD2221**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
IUD2221	PZ-140_042111_03	Iron	0.020U mg/L	A	F

LDC #: 25528G4
 SDG #: IUD2221
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 6-1-11
 Page: 1 of 1
 Reviewer: MG
 2nd Reviewer: *[Signature]*

METHOD: Dissolved Metals (EPA SW 846 Method 6020/7000)/6010B *gmh*

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4-21-11
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	A	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	A	MS/MSD
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	A	LCS
IX.	Internal Standard (ICP-MS)	N	not reviewed
X.	Furnace Atomic Absorption QC	N	not utilized
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	<i>gmh</i>
XIV.	Field Duplicates	SW	S = 1 + PZ-140-042111-01F (SDG: 280-14927-1)
XV.	Field Blanks	SW	FB = FB-041411-19F (SDG: 280-14655-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND ND = No compounds detected
 R = Rinsate
 FB = Field blank
 EB = EB-PZ-140-042111-1 (SDG: 280-14927-1)
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:
water

1	PZ-140_042111_03	11		21		31	
2	PZ-140_042111_03MS	12		22		32	
3	PZ-140_042111_03MSD	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20	PBW	30		40	

Notes: _____

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

N/A Were field blanks identified in this SDG?
 N/A Were target analytes detected in the field blanks?

Blank units: mg/L Associated sample units: mg/L
Sampling date: 4/14/11 Soil factor applied: NA

Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: all Qual: U (F)

Analyte	Blank ID	Action Level	1	Sample Identification				
Fe	FB_04141_1_19F	0.41	0.020					
Mn		0.0012						
Na		0.29	1.45					
Sn		0.00017	0.00085					

Blank units: mg/L Associated sample units: mg/L
Sampling date: 4/21/11 Soil factor applied: NA
Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: all (>5x)

Analyte	Blank ID	Action Level	No Qual's	Sample Identification				
Ca	EB_PZ-140_042111	0.037	0.185					
Na		0.32	1.6					

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET

Field Duplicates

METHOD: Metals (EPA Method 6010B/7000)

 Y N NA

Were field duplicate pairs identified in this SDG?

 Y N NA

Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	Qual. Parent only
	PZ-140_042111_01	1		
Antimony	0.0031U	0.00051	143	no qual.
Arsenic	0.00069	0.00090U	26	
Barium	0.061	0.059	3	
Boron	0.047	0.053	12	
Cadmium	0.000063	0.00012	62	no qual.
Calcium	110	130	17	
Cobalt	0.00054	0.00058	7	
Copper	0.00056U	0.00050	11	
Iron	0.022U	0.020	10	
Magnesium	37	39	5	
Manganese	0.071	0.066	7	
Nickel	0.0035	0.0026	30	
Potassium	3.3	3.1	6	
Selenium	0.0013	0.0015	14	
Sodium	74	71	4	
Thallium	0.000037	0.00020U	138	no qual.
Vanadium	0.0011	0.00086	24	
Molybdenum	0.0025	0.0030	18	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 21, 2011
LDC Report Date: June 2, 2011
Matrix: Water
Parameters: Wet Chemistry
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): IUD2221

Sample Identification

PZ-140_042111_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 300.0 for Bromide, Chloride, Fluoride, Nitrate, Nitrite, Orthophosphate, and Sulfate.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

Raw data were not reviewed for this SDG. The review was based on QC data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
PZ-140_042111_03	Nitrate Nitrite Orthophosphate	48.50 hours	48 hours	J (all detects) UJ (all non-detects)	P

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks.

Sample EB_PZ-140_042111 (from SDG 280-14927-1) was identified as an equipment blank. No contaminant concentrations were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No contaminant concentrations were found in this blank.

V. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VI. Duplicates

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG IUD2221	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

Samples PZ-140_042111_03 and PZ-140_042111_01 (from SDG 280-14927-1) were identified as split samples. No contaminant concentrations were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	PZ-140_042111_03	PZ-140_042111_01			
Bromide	0.82	0.45	58 (≤ 35)	NQ	-
Fluoride	0.55	0.45	20 (≤ 35)	-	-
Chlorine	130	140	7 (≤ 35)	-	-
Nitrate	11	11	0 (≤ 35)	-	-
Sulfate	130	130	0 (≤ 35)	-	-

NQ = One or both results were $< 5x$ the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG IUD2221**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
IUD2221	PZ-140_042111_03	Nitrate Nitrite Orthophosphate	J (all detects) UJ (all non-detects)	P	Technical holding times (H)
IUD2221	PZ-140_042111_03	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG IUD2221**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG IUD2221**

No Sample Data Qualified in this SDG

LDC #: 25528G6

VALIDATION COMPLETENESS WORKSHEET

Date: 6-1-11

SDG #: IUD2221

Level V

Page: 1 of 1

Laboratory: Test America Inc.

9M/4

Nitrite - N, Orthophosphate - P

Reviewer: MG

2nd Reviewer: [Signature]

METHOD: (Analyte) Bromide, Chloride, Fluoride, Nitrate, Nitrite, Sulfate, Orthophosphate (EPA Method 300.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: 4-21-11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IV	Matrix Spike/Matrix Spike Duplicates	N	client specified
V	Duplicates	N	" "
VI.	Laboratory control samples	A	LCS
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	SW	S = 1 + PZ-140_042111-01 (SDG: 280-149 27-1)
X	Field blanks	ND	FB = FB_041411-19 (SDG: 280-14655-1) EB = EB_PZ-140_042111 (SDG: 280-14927-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:
Water

1	PZ-140_042111_03	11		21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20	PBW	30		40	

Notes: _____

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Inorganics, Method See Cover

- Y N NA Were field duplicate pairs identified in this SDG?
- Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	Qual. Parent only
	PZ-140_042111_01	1		
Bromide	0.45	0.82	58	no qual. <i>CSM</i>
Fluoride	0.45	0.55	20	
Chloride	140	130	7	
Nitrate	11	11	0	
Sulfate	130	130	0	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 21, 2011
LDC Report Date: May 31, 2011
Matrix: Water
Parameters: Total Petroleum Hydrocarbons as Extractables
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): IUD2221

Sample Identification

PZ-140_042111_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were EPA SW 846 Method 8015B for Total Petroleum Hydrocarbons (TPH) as Extractables.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as extractable contaminants were found in the method blanks.

Sample EB_PZ-140_042111 (from SDG 280-14927-1) was identified as an equipment blank. No total petroleum hydrocarbons as extractable contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No total petroleum hydrocarbons as extractable contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD2221	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Samples PZ-140_042111_03 and PZ-140_042111_01 (from SDG 280-14927-1) were identified as split samples. No total petroleum hydrocarbons as extractable contaminants were detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Data Qualification Summary - SDG IUD2221**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2221	PZ-140_042111_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Laboratory Blank Data Qualification Summary - SDG IUD2221**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Diesel Range Organics - Field Blank Data Qualification Summary - SDG IUD2221**

No Sample Data Qualified in this SDG

LDC #: 25528G8
 SDG #: IUD2221
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/27/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC TPH as Extractables (EPA SW846 Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/21/11</u>
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	<u>Client spec</u>
VII.	Laboratory control samples	A	<u>LCS</u>
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates <u>/split</u>	ND	<u>S = 1 + PZ-140-042111-01 (280-14927-1)</u>
XIII.	Field blanks	ND	<u>EB = EB_PZ-140-042111</u> <u>FB = FB_041911-19 (280-14655-1)</u>

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: Water

1	PZ-140_042111_03	11	11 D 3649. #111	21	31
2		12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 21, 2011

LDC Report Date: June 1, 2011

Matrix: Water

Parameters: Dioxins/Dibenzofurans

Validation Level: EPA Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUD2221/G1D260546

Sample Identification

PZ-140_042111_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Routine Calibration (Continuing)

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
1119189-BLK1	4/29/11	1,2,3,4,6,7,8-HpCDD OCDD 1,2,3,4,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF Total HpCDD Total HxCDF Total HpCDF	2.2 pg/g 14 pg/g 0.57 pg/g 2.5 pg/g 0.92 pg/g 5.8 pg/g 4.6 pg/g 0.57 pg/g 5.1 pg/g	All samples in SDG IUD2221/G1D260546

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-140_042111_03	1,2,3,4,6,7,8-HpCDD	1.9 pg/g	1.9U pg/g
	OCDD	4.4 pg/g	4.4U pg/g
	1,2,3,4,6,7,8-HpCDF	1.4 pg/g	1.4U pg/g
	OCDF	2.7 pg/g	2.7U pg/g
	Total HpCDD	3.1 pg/g	3.1U pg/g
	Total HxCDF	0.75 pg/g	0.75U pg/g
	Total HpCDF	1.4 pg/g	1.4U pg/g

Sample EB_PZ-140_042111 (from SDG 280-14944-1) was identified as an equipment blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14659-1) was identified as a field blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

Internal standards data were not reviewed for Level V.

X. Target Compound Identifications

Raw data were not reviewed for this SDG.

XI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD2221/G1D260546	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XII. System Performance

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

Samples PZ-140_042111_03 and PZ-140_042111_01 (from SDG 280-14944-1) were identified as split samples. No polychlorinated dioxin/dibenzofurans were detected in any of the samples with the following exceptions:

Compound	Concentration (upg/g)		RPD (Limits)	Flag	A or P
	PZ-140_042111_01	PZ-140_042111_03			
1,2,3,4,6,7,8-HpCDD	50U	1.9	185	NQ	-
OCDD	100U	4.4	183	NQ	-
1,2,3,4,6,7,8-HpCDF	50U	1.4	189	NQ	-
OCDF	100U	2.7	189	NQ	-
Total HxCDD	Not reported	1.1	Not Calculable	-	-
Total HpCDD	Not reported	3.1	Not Calculable	-	-
Total PeCDF	Not reported	0.44	Not Calculable	-	-
Total HxCDF	Not reported	0.75	Not Calculable	-	-
Total HpCDF	Not reported	1.4	Not Calculable	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Data Qualification Summary - SDG IUD2221/G1D260546**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2221/G1D260546	PZ-140_042111_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG IUD2221/G1D260546**

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
IUD2221/G1D260546	PZ-140_042111_03	1,2,3,4,6,7,8-HpCDD OCDD 1,2,3,4,6,7,8-HpCDF OCDF Total HpCDD Total HxCDF Total HpCDF	1.9U pg/g 4.4U pg/g 1.4U pg/g 2.7U pg/g 3.1U pg/g 0.75U pg/g 1.4U pg/g	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG IUD2221/G1D260546**

No Sample Data Qualified in this SDG

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/21/11
II.	HRGC/HRMS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Routine calibration/ICV	N	
V.	Blanks	SW	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	LCS
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	N	
X.	Target compound identifications	N	
XI.	Compound quantitation and CRQLs	N	
XII.	System performance	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates / Split	SW	S = 1 + PZ-140_042111_01 (280-19944-1)
XV.	Field blanks	ND	EB = EB-PZ-140-042111 ↓

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

FB = FB-041411-19 (280-14659-1)
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	PZ-140_042111_03	11		21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

VALIDATION FINDINGS WORKSHEET

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

A. 2,3,7,8-TCDD	F. 1,2,3,4,6,7,8-HpCDD	K. 1,2,3,4,7,8-HxCDF	P. 1,2,3,4,7,8,9-HpCDF	U. Total HpCDD
B. 1,2,3,7,8-PeCDD	G. OCDD	L. 1,2,3,6,7,8-HxCDF	Q. OCDF	V. Total TCDF
C. 1,2,3,4,7,8-HxCDD	H. 2,3,7,8-TCDF	M. 2,3,4,6,7,8-HxCDF	R. Total TCDD	W. Total PeCDF
D. 1,2,3,6,7,8-HxCDD	I. 1,2,3,7,8-PeCDF	N. 1,2,3,7,8,9-HxCDF	S. Total PeCDD	X. Total HxCDF
E. 1,2,3,7,8,9-HxCDD	J. 2,3,4,7,8-PeCDF	O. 1,2,3,4,6,7,8-HpCDF	T. Total HxCDD	Y. Total HpCDF

Notes:

VALIDATION FINDINGS WORKSHEET

Blanks

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
 Y/N N/A Were all samples associated with a method blank?

Y/N N/A Was a method blank performed for each matrix and whenever a sample extraction was performed?
 Y/N N/A Was the method blank contaminated?

Blank extraction date: 4/29/11 Blank analysis date: 5/03/11 Associated samples: All Code: B
 Conc. units: pg/g

Compound	Blank ID	Sample Identification				
		5x	1			
F. 1,2,3,4,6,7,8-HpCDD	1119189-BLK1	11.00	1.9U			
G. OCDD	14	70.00	4.4U			
K. 1,2,3,4,7,8-HxCDF	0.57*	2.85				
O. 1,2,3,4,6,7,8-HpCDF	2.5*	12.50	1.4U			
P. 1,2,3,4,7,8,9-HpCDF	0.92*	4.60				
Q. OCDF	5.8	29.00	2.7U			
U. Total HpCDD	4.6	23.00	3.1U			
X. Total HxCDF	0.57*	2.85	0.75U			
Y. Total HpCDF	5.1*	25.50	1.4U			
* = EMPC						

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 All contaminants within five times the method blank concentration were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Splits

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

Y N NA Were field split pairs identified in this SDG?

Y N NA Were target analytes detected in the field split pairs?

Compound	Concentration (pg/g)		(<35%) RPD	Qualifications (Parent Only)
	PZ-140_042111_01	PZ-140_042111_03		
F	50U	1.9	185	NQ (<5XRL)
G	100U	4.4	183	NQ (<5XRL)
O	50U	1.4	189	NQ (<5XRL)
Q	100U	2.7	189	NQ (<5XRL)
T	NR	1.1	NC	
U	NR	3.1	NC	
W	NR	0.44	NC	
X	NR	0.75	NC	
Y	NR	1.4	NC	

NR = Not reported
 NC = Not calculable
 NQ = Not qualified

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 21, 2011

LDC Report Date: June 15, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUD2221/HAL75/1243823

Sample Identification

PZ-140_042111_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Compound	Total Days From Sample Collection Until Extraction	Required Holding Time (in Days) From Sample Collection Until Extraction	Flag	A or P
PZ-140_042111_03	Formaldehyde	6 days	3 days	J (all detects) UJ (all non-detects)	P

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

Sample EB_PZ-140_042111 (from SDG 280-14927-1) was identified as an equipment blank. No formaldehyde was found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No formaldehyde was found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD2221/HAL75/1243823	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Samples PZ-140_042111_03 and PZ-140_042111_01 (from SDG 280-14927-1) were identified as split samples. No formaldehyde was detected in any of the samples.

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Data Qualification Summary - SDG IUD2221/HAL75/1243823**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2221/HAL75 /1243823	PZ-140_042111_03	Formaldehyde	J (all detects) UJ (all non-detects)	P	Technical holding times (H)
IUD2221/HAL75 /1243823	PZ-140_042111_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Laboratory Blank Data Qualification Summary - SDG IUD2221/HAL75/1243823**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Field Blank Data Qualification Summary - SDG IUD2221/HAL75/1243823**

No Sample Data Qualified in this SDG

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: 4/21/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	loc / b
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates / Split	ND	S = 1, PZ-140-042111-01 (280-14927-1)
XIII.	Field blanks	ND	EB = EB-PZ-140-042111 ↓

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

FB = FB-041411-19 (280-14655-1)
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: *water*

1	PZ-140_042111_03	11	PBLK 25116	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 21, 2011
LDC Report Date: June 15, 2011
Matrix: Water
Parameters: Hydrazines
Validation Level: Level V
Laboratory: TestAmerica, Inc./Lancaster Laboratories
Sample Delivery Group (SDG): IUD2221/HAL75/1243823

Sample Identification

PZ-140_042111_03
PZ-140_042111_03MS
PZ-140_042111_03MSD

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315M for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazines were found in the method blanks.

Sample FB_041411_19 (from SDG 14655-1) was identified as a field blank. No hydrazines were found in this blank.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUD2221/HAL75/1243823	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Data Qualification Summary - SDG IUD2221/HAL75/1243823**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUD2221/HAL75/1243823	PZ-140_042111_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG IUD2221/HAL75/1243823**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG IUD2221/HAL75/1243823**

No Sample Data Qualified in this SDG

LDC #: 25528G76 **VALIDATION COMPLETENESS WORKSHEET**

SDG #: IUD2221/HA175/1243823 Level V

Laboratory: Test America, Inc. Lancaster Laboratories

Date: 5/27/11

Page: 1 of 1

Reviewer: JVL

2nd Reviewer:

METHOD: HPLC Hydrazines (EPA SW846 Method 8315M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

Validation Area			Comments
I.	Technical holding times	A	Sampling dates: 4/21/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	A	
VII.	Laboratory control samples	A	UCS 1b
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	FB = FB_041411_19 (280-1465E-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinstate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	PZ-140_042111_03	11	1112400 Blk	21		31	
2	PZ-140-042111_03 MS	12		22		32	
3	PZ-140_042111_03 MSD	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: (Parent sample not requested for Hydrazines)



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

June 21, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Level IV Data Validation

Dear Mr. Reiners,

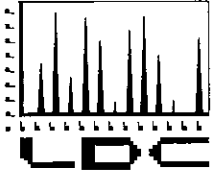
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on June 15, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25667:

<u>SDG #</u>	<u>Fraction</u>
280-14379-1	Semivolatiles, Cyanide
280-14432-1, 280-14967-1	Herbicides
280-14437-1/H1D120409, 280-14490-1/H1D130480, 280-14530-1/H1D140421, 280-14974-1/H1D260440, 280-15013-1/H1D270520, 280-15128-1/H1D300401	Dioxins/Dibenzofurans
280-14484-1/A1D120533	Chlorinated Pesticides, Herbicides, Wet Chemistry
280-14519-1, 280-14865-1	Herbicides, Cyanide
280-14655-1	Volatiles, Herbicides
280-14702-1	Semivolatiles, Herbicides
280-15011-1	Volatiles
280-15069-1, 280-15184-1	Cyanide
280-15126-1	Semivolatiles, Wet Chemistry

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010



- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV LDC #25667 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		SVOA (8270C)		Pest. (8081A)		Herbs (8151A)		Dioxins (8290)		CN- (9012A)		S= (4500 -S2 D)		W		S		W		S		W		S			
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
Matrix: Water/Soil																															
A	280-14379-1	06/15/11	06/22/11	-	-	3	0	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
B	280-14432-1	06/15/11	06/22/11	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
C	280-14437-1/ H1D120409	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
D	280-14484-1/ A1D120533	06/15/11	06/22/11	-	-	-	-	1	0	1	0	-	-	2	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	
E	280-14490-1/ H1D130480	06/15/11	06/22/11	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
F	280-14519-1	06/15/11	06/22/11	-	-	-	-	-	-	1	0	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
G	280-14530-1/ H1D140421	06/15/11	06/22/11	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
H	280-14655-1	06/15/11	06/22/11	1	0	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
I	280-14702-1	06/15/11	06/22/11	-	-	1	0	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
J	280-14865-1	06/15/11	06/22/11	-	-	-	-	-	-	2	0	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
K	280-14967-1	06/15/11	06/22/11	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
L	280-14974-1/ H1D260440	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
M	280-15011-1	06/15/11	06/22/11	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
N	280-15013-1/ H1D270520	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
O	280-15069-1	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
P	280-15126-1	06/15/11	06/22/11	-	-	1	0	-	-	-	-	-	-	3	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	
Q	280-15128-1/ /H1D300401	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R	280-15184-1	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total				2	0	5	0	1	0	9	0	8	0	10	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 7, 2011

LDC Report Date: June 20, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level IV

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14379-1

Sample Identification

SH-04_040711_01
HAR-26_040711_01
RS-33_040711_01

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all compounds.

Average relative response factors (RRF) for all compounds were within method and validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs) and 25.0% for all other compounds.

The percent differences (%D) of the second source calibration standard were less than or equal to 25.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within method and validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks

Sample EB_SH-04_040711 was identified as an equipment blank. No semivolatile contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No semivolatile contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG280-14379-1	All compounds reported below the RL.	J (all detects)	A

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-14379-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14379-1	SH-04_040711_01 HAR-26_040711_01 RS-33_040711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-14379-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-14379-1**

No Sample Data Qualified in this SDG

LDC #: 25667A2a
 SDG #: 280-14379-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level IV

Date: 6/17/11
 Page: 1 of 1
 Reviewer: QV
 2nd Reviewer: Q

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4 / 07 / 11
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	% RSD \leq 30 %
IV.	Continuing calibration/ICV	A	CV/ICV \leq 25 %
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS / B
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	
XII.	Compound quantitation/CRQLs	A	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	A	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	EB = EB_SH-04_040711 (same SDG) FB = FB_041411-19 (from 280-14655-1)

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: Water

1	SH-04_040711_01	11		21		31	
2	HAR-26_040711_01	12		22		32	
3	RS-33_040711_01	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Method: Semivolatiles (EPA SW 846 Method 8270C)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	/			
Cooler temperature criteria was met.	/			
II. GC/MS Instrument performance check				
Were the DFTPP performance results reviewed and found to be within the specified criteria?	/			
Were all samples analyzed within the 12 hour clock criteria?	/			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	/			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	/			
Was a curve fit used for evaluation?	/			
Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990 ?	/			
Were all percent relative standard deviations (%RSD) $\leq 30\%$ and relative response factors (RRF) > 0.05 ?	/			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	/			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	/			
Were all percent differences (%D) $\leq 25\%$ and relative response factors (RRF) ≥ 0.05 ?	/			
V. Blanks				
Was a method blank associated with every sample in this SDG?	/			
Was a method blank analyzed for each matrix and concentration?	/			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		/		
VI. Surrogate spikes				
Were all surrogate %R within QC limits?	/			
If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?			/	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			/	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	/			
Was a MS/MSD analyzed every 20 samples of each matrix?	/			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	/			
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	/			

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per extraction batch?	/			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	/			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		/		
Were the performance evaluation (PE) samples within the acceptance limits?			/	
X. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	/			
Were retention times within + 30 seconds from the associated calibration standard?	/			
XI. Target compound identification				
Were relative retention times (RRT's) within + 0.06 RRT units of the standard?	/			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	/			
Were chromatogram peaks verified and accounted for?	/			
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	/			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	/			
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			/	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			/	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?			/	
XIV. System performance				
System performance was found to be acceptable.	/			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	/			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.		/		
Target compounds were detected in the field duplicates.			/	
XVII. Field blanks				
Field blanks were identified in this SDG.	/			
Target compounds were detected in the field blanks.		/		

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: GC/MS SVOA (EPA SW 846 Method 8270C)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$$RRF = (A_x)(C_{is}) / (A_{is})(C_x)$$

$$\text{average RRF} = \text{sum of the RRFs} / \text{number of standards}$$

$$\%RSD = 100 * (S/X)$$

A_x = Area of Compound
 A_{is} = Area of associated internal standard
 C_x = Concentration of compound,
 C_{is} = Concentration of internal standard
 S = Standard deviation of the RRFs,
 X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (50 std)	Recalculated RRF (50 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	4/13/2011	Phenol (IS1)	1.8636	1.8636	1.7761	1.7761	6.8	6.84
	MSS B		Naphthalene (IS2)	1.0366	1.0366	1.0034	1.0034	9.3	9.33
			Diethyl phthalate (IS3)	1.1931	1.1931	1.1380	1.1380	7.2	7.16
			Hexachlorobenzene (IS4)	0.1982	0.1982	0.1928	0.1928	5.2	5.15
			Bis(2-ethex) phthalate (IS5)	0.7552	0.7552	0.7022	0.7022	9.0	9.02
			Benzo(a)pyrene (IS6)	1.0751	1.0751	1.0197	1.0197	4.6	4.55

Inc IS/Cpd	Area cpd	Area IS
40/50	498522	214003
40/50	1106785	854165
40/50	725986	486795
40/50	197808	798317
40/50	749588	794008
40/50	1001972	745575

Conc	Phenol	Naphthalene	Diethyl phthal	Hexachlorob	Bis(2-ethex) ph	Benzo(a)py
4.00		1.1055	1.2204		0.5672	0.9988
10.00	1.9124	1.1119	1.1932	0.2058	0.6623	1.0114
20.00	1.8713	1.0567	1.2083	0.1999	0.7036	1.0819
50.00	1.8636	1.0366	1.1931	0.1982	0.7552	1.0751
80.00	1.8201	1.0134	1.1551	0.1940	0.7592	1.0492
120.00	1.7131	0.9441	1.0782	0.1906	0.7423	1.0081
160.00	1.6617	0.9013	1.0432	0.1842	0.7261	0.9884
200.00	1.5908	0.8579	1.0123	0.1766	0.7016	0.9445
X =	1.7761	1.0034	1.1380	0.1928	0.7022	1.0197
S =	0.1215	0.0936	0.0815	0.0099	0.0633	0.0464

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

METHOD: GC/MS SVOA (EPA SW 846 Method 8270C)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

Where:
 % Difference = $100 * (\text{ave. RRF} - \text{RRF}) / \text{ave. RRF}$ Cx = Concentration of compound
 RRF = $(\text{Ax})(\text{Cis}) / (\text{Ais})(\text{Cx})$ Ais = Area of associated internal standard
 Ax = Area of compound Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (IS)	Average RRF (Initial RRF)	Reported (CC RRF)	Recalculated (CC RRF)	Reported %D	Recalculated %D
1	B4255	04/14/11	Phenol (IS1)	1.7761	1.8115	1.8115	2.0	2.0
			Naphthalene (IS2)	1.0034	0.9926	0.9926	1.1	1.1
			Diethyl phthalate (IS3)	1.1380	1.1404	1.1404	0.2	0.2
			Hexachlorobenzene (IS4)	0.1928	0.1992	0.1992	3.3	3.3
			Bis(2-ethex) phthalate (IS5)	0.7022	0.7448	0.7448	6.1	6.1
			Benzo(a)pyrene (IS6)	1.0197	1.0595	1.0595	3.9	3.9

Compound (IS)	Cis/Cx	Ax	Ais
Phenol (IS1)	40/80	769147	212293
Naphthalene (IS2)	40/80	1691924	852296
Diethyl phthalate (IS3)	40/80	1103161	483689
Hexachlorobenzene (IS4)	40/80	310555	779634
Bis(2-ethex) phthalate (IS5)	40/80	1153362	774313
Benzo(a)pyrene (IS6)	40/80	1559615	735986

LDC #: 25667 A2a

SDG #: See Cover

VALIDATION FINDINGS WORKSHEET

Surrogate Results Verification

Page: 1 of 1

Reviewer: *[Signature]*

2nd reviewer: *[Signature]*

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270C)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: $SF/SS * 100$

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: # 1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5	100	74.3	74	74	0
2-Fluorobiphenyl	↓	69.6	70	70	↓
Terphenyl-d14	↓	79.6	80	80	↓
Phenol-d5	150	112.5	75	75	↓
2-Fluorophenol	↓	103.9	69	69	↓
2,4,6-Tribromophenol	↓	131.8	88	88	↓
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: JM

2nd Reviewer: Q

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = $100 * (SC/SA)$

Where: SSC = Spike concentration
SA = Spike added

RPD = $|LCSC - LCSDC| * 2 / (LCSC + LCSDC)$

LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: LCS/d - 61520 / 2, 3-A

Compound	Spike Added (ug/L)		Spike Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
	Phenol	80	80	68.3	65.7	85	85	82	82	4
N-Nitroso-di-n-propylamine			68.8	65.2	86	86	82	82	5	5
4-Chloro-3-methylphenol			70.7	69.8	88	88	87	87	1	1
Acenaphthene			65.9	65.2	82	82	81	81	1	1
Pentafluorophenol										
Pyrene			69.9	71.2	87	87	89	89	2	2

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Y / N / N/A
Y / N / N/A

Were all reported results recalculated and verified for all level IV samples?

Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

$$\text{Concentration} = \frac{(A_s)(L)(V_i)(DF)(2.0)}{(A_i)(RRF)(V_o)(V_i)(\%S)}$$

A_s = Area of the characteristic ion (EICP) for the compound to be measured

A_i = Area of the characteristic ion (EICP) for the specific internal standard

L = Amount of internal standard added in nanograms (ng)

V_o = Volume or weight of sample extract in milliliters (ml) or grams (g).

V_i = Volume of extract injected in microliters (ul)

V_t = Volume of the concentrated extract in microliters (ul)

DF = Dilution Factor.

$\%S$ = Percent solids, applicable to soil and solid matrices only.

2.0 = Factor of 2 to account for GPC cleanup

Example:

Sample I.D. # 1, EEE

$$\text{Conc.} = \frac{(99498)(40)(1000)(\quad)(\quad)}{(919612)(0.7022)(1015.7)(\quad)(\quad)}$$

= 3.019

≈ 3.0 ug/L

#	Sample ID	Compound	Reported Concentration ()	Calculated Concentration ()	Qualification

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 7, 2011

LDC Report Date: June 16, 2011

Matrix: Water

Parameters: Cyanide

Validation Level: Level IV

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14379-1

Sample Identification

HAR-26_040711_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 9012A for Cyanide.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

All criteria for the initial calibration of each method were met.

III. Calibration Verification

Calibration verification frequency and analysis criteria were met.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No cyanide was found in the initial, continuing and preparation blanks.

No field blanks were identified in this SDG.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All sample result verifications were acceptable.

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-14379-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Wet Chemistry - Data Qualification Summary - SDG 280-14379-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-14379-1	HAR-26_040711_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-14379-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-14379-1**

No Sample Data Qualified in this SDG

LDC #: 25667A6
 SDG #: 280-14379-1
 Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level IV

Date: 6/16/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: (Analyte) Cyanide (EPA SW846 Method 9012A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	D	Sampling dates: 4-7-11
II	Initial calibration	D	
III.	Calibration verification	D	
IV	Blanks	A	
V	Matrix Spike/Matrix Spike Duplicates	A	MS/D (this SDG)
VI.	Duplicates	N	
VII.	Laboratory control samples	A	LCS/D
VIII.	Sample result verification	D	
IX.	Overall assessment of data	A	
X.	Field duplicates	N	
XI.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: water

1	HAR-26_040711_01	11	RBW	21	31
2		12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

Method: Inorganics (EPA Method See cover)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Cooler temperature criteria was met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
II. Calibration				
Were all instruments calibrated daily, each set-up time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were the proper number of standards used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all initial calibration correlation coefficients > 0.995?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all initial and continuing calibration verification %Rs within the 90-110% QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were titrant checks performed as required? (Level IV only)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Were balance checks performed as required? (Level IV only)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
III. Blanks				
Was a method blank associated with every sample in this SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of ≤ CRDL (≤ 2X CRDL for soil) was used for samples that were ≤ 5X the CRDL, including when only one of the duplicate sample values were < 5X the CRDL.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
V. Laboratory control samples				
Was an LCS analyzed for this SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was an LCS analyzed per extraction batch?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% (85-115% for Method 300.0) QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were the performance evaluation (PE) samples within the acceptance limits?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were detection limits < RL?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Target analytes were detected in the field duplicates.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
X. Field blanks				
Field blanks were identified in this SDG.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Target analytes were detected in the field blanks.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

**Validation Findings Worksheet
Initial and Continuing Calibration Calculation Verification**

Method: Inorganics, Method See Cover

The correlation coefficient (r) for the calibration of CN was recalculated. Calibration date: 4/9/11

An initial or continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

%R = $\frac{\text{Found} \times 100}{\text{True}}$

Where,

Found = concentration of each analyte measured in the analysis of the ICV or CCV solution

True

= concentration of each analyte in the ICV or CCV source

Type of analysis	Analyte	Standard	Conc. (mg/l)	Area	Recalculated		Reported		Acceptable (Y/N)
					r or r ²	r or r ²	r or r ²	r or r ²	
Initial calibration	CN	s1	0	424	0.999989	0.999989			Y
		s2	10	6408					
		s3	20	12362					
		s4	50	30483					
		s5	100	60565					
		s6	200	119956					
		s7	400	237576					
Calibration verification		CCV	200	196.7		98	-		
Calibration verification		↓	↓	193.9		97	-		
Calibration verification									

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 28687A6

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Page: 1 of 1
Reviewer: QR
2nd Reviewer: LR

METHOD: Inorganics, Method See cover

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

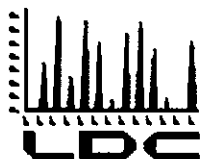
$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$
 Where, Found = concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, True = concentration of each analyte in the source.
Found = SSR (spiked sample result) - SR (sample result).

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$$RPD = \frac{|S-D|}{(S+D)/2} \times 100$$
 Where, S = Original sample concentration
D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	Found / S (units) <u>mg/L</u>	True / D (units) <u>mg/L</u>	Recalculated		Reported		Acceptable (Y/N)
					%R / RPD	%R / RPD	%R / RPD	%R / RPD	
<u>LC5</u>	Laboratory control sample	<u>CN</u>	<u>0.101</u>	<u>0.1</u>	<u>101</u>	<u>101</u>	<u>101</u>	<u>101</u>	<u>Y</u>
<u>SH-01-040716</u>	Matrix spike sample	<u>↓</u>	<u>0.0842</u> (SSR-SR)	<u>0.1</u>	<u>84</u>	<u>84</u>	<u>84</u>	<u>84</u>	<u>Y</u>
<u>↓</u>	Duplicate sample	<u>↓</u>	<u>0.09</u>	<u>0.0905</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>Y</u>

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

June 21, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Level IV Data Validation

Dear Mr. Reiners,

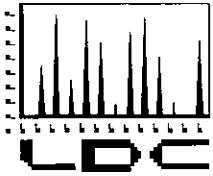
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on June 15, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25667:

<u>SDG #</u>	<u>Fraction</u>
280-14379-1	Semivolatiles, Cyanide
280-14432-1, 280-14967-1	Herbicides
280-14437-1/H1D120409, 280-14490-1/H1D130480, 280-14530-1/H1D140421, 280-14974-1/H1D260440, 280-15013-1/H1D270520, 280-15128-1/H1D300401	Dioxins/Dibenzofurans
280-14484-1/A1D120533	Chlorinated Pesticides, Herbicides, Wet Chemistry
280-14519-1, 280-14865-1	Herbicides, Cyanide
280-14655-1	Volatiles, Herbicides
280-14702-1	Semivolatiles, Herbicides
280-15011-1	Volatiles
280-15069-1, 280-15184-1	Cyanide
280-15126-1	Semivolatiles, Wet Chemistry

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010



- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV LDC #25667 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	DATE DUE (3)	VOA (8260B)		SVOA (8270C)		Pest. (8081A)		Herbs (8151A)		Dioxins (8290)		CN- (9012A)		S= (4500 -S2 D)		W S		W S		W S		W S		W S		W S		W S		W S							
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S						
Matrix: Water/Soil																																							
A	280-14379-1	06/15/11	06/22/11	-	-	3	0	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
B	280-14432-1	06/15/11	06/22/11	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
C	280-14437-1/ H1D120409	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
D	280-14484-1/ A1D120533	06/15/11	06/22/11	-	-	-	-	1	0	1	0	-	-	2	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
E	280-14490-1/ H1D130480	06/15/11	06/22/11	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
F	280-14519-1	06/15/11	06/22/11	-	-	-	-	-	-	1	0	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
G	280-14530-1/ H1D140421	06/15/11	06/22/11	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
H	280-14655-1	06/15/11	06/22/11	1	0	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
I	280-14702-1	06/15/11	06/22/11	-	-	1	0	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
J	280-14865-1	06/15/11	06/22/11	-	-	-	-	-	2	0	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K	280-14967-1	06/15/11	06/22/11	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L	280-14974-1/ H1D260440	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M	280-15011-1	06/15/11	06/22/11	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N	280-15013-1/ H1D270520	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O	280-15069-1	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P	280-15126-1	06/15/11	06/22/11	-	-	1	0	-	-	-	-	-	-	3	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Q	280-15128-1 /H1D300401	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R	280-15184-1	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total				2	0	5	0	1	0	9	0	8	0	10	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37	

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 8, 2011

LDC Report Date: June 20, 2011

Matrix: Water

Parameters: Herbicides

Validation Level: Level IV

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14432-1

Sample Identification

SH-03_040811_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8151A for Herbicides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration of compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable.

III. Calibration Verification

Calibration verification was performed at the required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No herbicide contaminants were found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No herbicide contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No herbicide contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/(Matrix Spike) Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

All target compound identifications were within validation criteria.

IX. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

The sample results for detected compounds from the two columns were within 40% relative percent difference (RPD) with the following exceptions:

Sample	Compound	RPD	Flag	A or P
SH-03_040811_01	Dinoseb	83.7	J (all detects)	P

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14432-1	All compounds reported below the RL.	J (all detects)	A

X. System Performance

The system performance was acceptable.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Data Qualification Summary - SDG 280-14432-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14432-1	SH-03_040811_01	Dinoseb	J (all detects)	P	Compound quantitation and CRQLs (RPD) (*IX)
280-14432-1	SH-03_040811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Laboratory Blank Data Qualification Summary - SDG 280-14432-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Field Blank Data Qualification Summary - SDG 280-14432-1**

No Sample Data Qualified in this SDG

LDC #: 25667B5
 SDG #: 280-14432-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level IV

Date: 6/6/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/08/11</u>
II	Initial calibration	A	<u>2 RSD < 20</u>
III.	Calibration verification/ICV	A	<u>CCV/ICV < 20</u>
IV.	Blanks	A	
V	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	A	<u>client spec</u>
VII.	Laboratory control samples	A	<u>LCS/D</u>
VIII.	Target compound identification	A	
IX.	Compound Quantitation and CRQLs	SW	
X.	System Performance	A	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	<u>EB = EB-SH-04_040711 (from 280-14379-1)</u> <u>FB = FB-041411-19 (from 280-14655-1)</u>

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

1	SH-03_040811_01	11	MB 280-61806/1-A 21	31
2		12	MB 280-61806/1-A 22	32
3		13		33
4		14		34
5		15		35
6		16		36
7		17		37
8		18		38
9		19		39
10		20		40

Notes: _____

Method: GC HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	/			
Cooler temperature criteria was met.	/			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	/			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) < 20%?	/			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?			/	
Did the initial calibration meet the curve fit acceptance criteria?			/	
Were the RT windows properly established?	/			
III. Continuing calibration				
What type of continuing calibration calculation was performed? <u>/</u> %D or <u>/</u> %R	/			
Was a continuing calibration analyzed daily?	/			
Were all percent differences (%D) < 20%, 0 or percent recoveries 80-120%?	/			
Were all the retention times within the acceptance windows?	/			
IV. Blanks				
Was a method blank associated with every sample in this SDG?	/			
Was a method blank analyzed for each matrix and concentration?	/			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.			/	
V. Surrogate spikes				
Were all surrogate %R within the QC limits?	/			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			/	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			/	
VI. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	/	/		
Was a MS/MSD analyzed every 20 samples of each matrix?		/		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			/	
VII. Laboratory control samples				
Was an LCS analyzed for this SDG?	/			
Was an LCS analyzed per extraction batch?	/			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	/			
VIII. Regional Quality Assurance and Quality Control				

Validation Area	Yes	No	NA	Findings/Comments
Were performance evaluation (PE) samples performed?		/		
Were the performance evaluation (PE) samples within the acceptance limits?			/	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	/			
XI. Compound quantification/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	/			
XII. System performance				
System performance was found to be acceptable.	/			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	/			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		/		
Target compounds were detected in the field duplicates.			/	
XV. Field blanks				
Field blanks were identified in this SDG.	/			
Target compounds were detected in the field blanks.		/		

VALIDATION FINDINGS WORKSHEET Compound Quantitation and Reported CRQLs

METHOD: GC HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Level IV/D Only

- N N/A
- N N/A
- N N/A

Were CRQLs adjusted for sample dilutions, dry weight factors, etc.?

Did the reported results for detected target compounds agree within 10.0% of the recalculated results?

Did the percent difference of detected compounds between two columns/detectors \leq 40%?

If no, please see findings below.

#	Compound Name	Sample ID	<u>%RPD</u> %D Between Two Columns/Detectors Limit (\leq 40%)	Qualifications
	<u>Dinoscol</u>	<u>1</u>	<u>83.7</u>	<u>Dets / p (*#)</u>

Comments: See sample calculation verification worksheet for recalculations

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The calibration factors (CF), average CF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

CF = A/C
 average CF = sum of the CF/number of standards
 %RSD = 100 * (S/X)
 Where:
 A = Area of compound
 C = Concentration of compound
 S = Standard deviation of calibration factors
 X = Mean of calibration factors

#	Standard ID	Calibration Date	Compound	Reported RRF (100 std)	Recalculated RRF (100 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	4/22/2011	Dinoseb (DB-35MS)	591.63	592.17	558.27	558.27	4.8	4.8
	GCS M		Dinoseb (DB-XLB)	565.40	565.91	534.59	534.59	8.4	8.4

Dinoseb

DB35MS	
18.9	575.43
47.2	566.52
236	591.63
472	520.96
709	527.62
945	547.05
1890	578.68
S =	558.27
X =	27

DB-XLB	
18.8	600.99
47.0	576.24
235.0	565.40
470.0	492.63
705.0	496.43
940.0	502.13
1881.0	508.34
S =	534.59
X =	45

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration percent difference (%D) values were recalculated for the compounds identified below using the following calculation:

Where:

$$\text{Percent difference (\%D)} = 100 * (N - C) / N$$

N = Initial Calibration Factor or Nominal Amount
C = Calibration Factor from Continuing Calibration Standard or Calculated Amount

#	Standard ID	Calibration Date	Compound	Average RRF	Reported RRF (CC)	Recalculated RRF (CC)	Reported % D	Recalculated % D
1	073B7301	4/23/2011	Disoseb (DB 35MS)	558.27	559.39	559.39	0.1	0.2
			Dinoseb (DB XLB)	534.59	603.18	603.18	12.7	12.8

CCV1

Compound	Response	Conc
Disoseb (DB 35MS)	264034	472
Dinoseb (DB XLB)	284703	472

LDC #: 25667 B5

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: JVG
2nd reviewer: C

METHOD: GC HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: # /

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery		Percent Difference
				Reported	Recalculated	
2,4-DCAA	DB35MS	SF	561.329	117	117	0
	DBXLP	↓	499.336	100	100	↓

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery		Percent Difference
				Reported	Recalculated	

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery		Percent Difference
				Reported	Recalculated	

LDC #: 25667 BS

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: 4

METHOD: GC HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = $100 * (SSC - SC) / SA$

Where SSC = Spiked sample concentration
SA = Spike added

SC = Sample concentration

RPD = $((SSCLCS - SSCLCSD) * 2) / (SSCLCS + SSCLCSD) * 100$

LCS = Laboratory Control Sample

LCS/D = Laboratory Control Sample duplicate

LCS/LCSD samples: LCS/D 280 - 61806/2,3-A

Compound	Spike Added (ug/L)		Spike Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)										
Diesel (8015)										
Benzene (8021B)										
Methane (RSK-175)										
2,4-D (8151)	4.60	4.60	5.70	5.45	124	124	118	118	4	4
Dinoseb (8151)										
Naphthalene (8310)										
Anthracene (8310)										
HMX (8330)										
2,4,6-Trinitrotoluene (8330)										

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 25667 BS

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: JVE
2nd Reviewer: [Signature]

METHOD: GC HPLC

Y/N N/A
Y/N N/A

Were all reported results recalculated and verified for all level IV samples?
Were all recalculated results for detected target compounds within 10% of the reported results?

(DB 35ms)

Concentration = $\frac{(A)(F_v)(D_f)}{(RF)(V_s \text{ or } W_s)(\%S/100)}$

A = Area or height of the compound to be measured
F_v = Final Volume of extract
D_f = Dilution Factor
RF = Average response factor of the compound
In the initial calibration
V_s = Initial volume of the sample
W_s = Initial weight of the sample
%S = Percent Solid

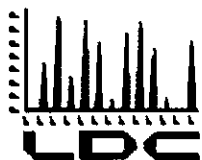
Example:

Sample ID. #1 Compound Name divinyl

Concentration = $\frac{(10184)}{(558.27)} \frac{(10 \text{ ml})}{(1056.7)} = 0.1726$
 $\approx 0.17 \text{ ug/L}$

#	Sample ID	Compound	Reported Concentrations	Recalculated Results Concentrations	Qualifications

Comments: _____



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

June 21, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Level IV Data Validation

Dear Mr. Reiners,

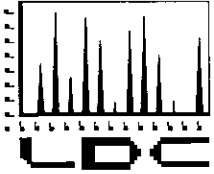
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on June 15, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25667:

<u>SDG #</u>	<u>Fraction</u>
280-14379-1	Semivolatiles, Cyanide
280-14432-1, 280-14967-1	Herbicides
280-14437-1/H1D120409, 280-14490-1/H1D130480, 280-14530-1/H1D140421, 280-14974-1/H1D260440, 280-15013-1/H1D270520, 280-15128-1/H1D300401	Dioxins/Dibenzofurans
280-14484-1/A1D120533	Chlorinated Pesticides, Herbicides, Wet Chemistry
280-14519-1, 280-14865-1	Herbicides, Cyanide
280-14655-1	Volatiles, Herbicides
280-14702-1	Semivolatiles, Herbicides
280-15011-1	Volatiles
280-15069-1, 280-15184-1	Cyanide
280-15126-1	Semivolatiles, Wet Chemistry

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010



- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV LDC #25667 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		SVOA (8270C)		Pest. (8081A)		Herbs (8151A)		Dioxins (8290)		CN- (9012A)		S= (4500 -S2 D)		W S W S		W S W S		W S W S		W S W S		W S W S					
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
Matrix: Water/Soil																															
A	280-14379-1	06/15/11	06/22/11	-	-	3	0	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
B	280-14432-1	06/15/11	06/22/11	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
C	280-14437-1/ H1D120409	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
D	280-14484-1/ A1D120533	06/15/11	06/22/11	-	-	-	-	1	0	1	0	-	-	2	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	
E	280-14490-1/ H1D130480	06/15/11	06/22/11	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
F	280-14519-1	06/15/11	06/22/11	-	-	-	-	-	-	1	0	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
G	280-14530-1/ H1D140421	06/15/11	06/22/11	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
H	280-14655-1	06/15/11	06/22/11	1	0	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
I	280-14702-1	06/15/11	06/22/11	-	-	1	0	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
J	280-14865-1	06/15/11	06/22/11	-	-	-	-	-	-	2	0	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
K	280-14967-1	06/15/11	06/22/11	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
L	280-14974-1/ H1D260440	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
M	280-15011-1	06/15/11	06/22/11	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
N	280-15013-1/ H1D270520	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
O	280-15069-1	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
P	280-15126-1	06/15/11	06/22/11	-	-	1	0	-	-	-	-	-	-	3	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	
Q	280-15128-1 /H1D300401	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R	280-15184-1	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total						2	0	5	0	1	0	9	0	8	0	10	0	2	0	0	0	0	0	0	0	0	0	0	0	0	37

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DJPs

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 8, 2011

LDC Report Date: June 17, 2011

Matrix: Water

Parameters: Dioxins/Dibenzofurans

Validation Level: EPA Level IV

Laboratory: Test America Inc.

Sample Delivery Group (SDG): 280-14437-1/H1D120409

Sample Identification

SH-03_040811_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance was checked at the required daily frequency.

Retention time windows were established for all homologues.

The chromatographic resolution between 2,3,7,8-TCDD and the peaks representing any other unlabeled TCDD isomers was resolved with a valley of less than or equal to 25%.

The exact mass of 380.9760 of PFK was verified.

The static resolving power was at least 10,000 (10% valley definition).

III. Initial Calibration

A five point initial calibration was performed as required by the method.

Percent relative standard deviations (%RSD) were less than or equal to 20.0% for unlabeled compounds and less than or equal to 30.0% for labeled compounds.

The ion abundance ratios for all PCDDs and PCDFs were within validation criteria.

The minimum S/N ratio for each target compound was greater than or equal to 2.5 and greater than or equal to 10 for each recovery and internal standard compound.

IV. Routine Calibration (Continuing)

Routine calibration was performed at the required frequencies.

All of the routine calibration percent differences (%D) between the initial calibration RRF and the routine calibration RRF were less than or equal to 20.0% for unlabeled compounds and less than or equal to 30.0% for labeled compounds.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for unlabeled compounds and less than or equal to 30.0% for labeled compounds.

The ion abundance ratios for all PCDDs and PCDFs were within validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
1108103-MB	4/18/11	OCDD	36 pg/L	SH-03_040811_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

Sample EB_SH-04_040711 (from SDG 280-14402-1/H1D090407) was identified as an equipment blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14659-1) was identified as a field blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. The percent recoveries (%R) were within the QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

All internal standard recoveries were within QC limits.

X. Target Compound Identifications

All target compound identifications were within validation criteria.

XI. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14437-1/H1D120409	All compounds reported below the RL.	J (all detects)	A

XII. System Performance

The system performance was acceptable.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-14437-1/H1D120409**

SDG	Sample	Compound	Flag	A or P	Reason
280-14437-1/H1D120409	SH-03_040811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-14437-1/H1D120409**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-14437-1/H1D120409**

No Sample Data Qualified in this SDG

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/08/11
II.	HRGC/HRMS Instrument performance check	A	
III.	Initial calibration	A	% RSD ≤ 20% unlabeled ; ≤ 30% labeled
IV.	Routine calibration/ICV	A	CV/10V ↓ ↓
V.	Blanks	SW	
VI.	Matrix spike/Matrix spike duplicates	N	Client spec
VII.	Laboratory control samples	A	LCS
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	A	
X.	Target compound identifications	A	
XI.	Compound quantitation and CRQLs	A	
XII.	System performance	A	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	ND	EB = EB_SH-04_040711 (from 280-14402-1/H1D090407) FB = FB-041411-19 (from 280-141659-1)

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

#							
1	SH-03_040811_01	11	1108103 -	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Method: Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times:				
All technical holding times were met.	/			
Cooler temperature criteria was met.	/			
II. GC/MS instrument performance check:				
Was PFK exact mass 380.9760 verified?	/			
Were the retention time windows established for all homologues?	/			
Was the chromatographic resolution between 2,3,7,8-TCDD and peaks representing any other unlabeled TCDD isomers < 25% ?	/			
Is the static resolving power at least 10,000 (10% valley definition)?	/			
Was the mass resolution adequately check with PFK?	/			
Was the presence of 1,2,8,9-TCDD and 1,3,4,6,8-PeCDF verified?	/			
III. Initial calibration:				
Was the initial calibration performed at 5 concentration levels?	/			
Were all percent relative standard deviations (%RSD) ≤ 20% for unlabeled standards and < 30% for labeled standards?	/			
Did all calibration standards meet the Ion Abundance Ratio criteria?	/			
Was the signal to noise ratio for each target compound ≥ 2.5 and for each recovery and internal standard > 10?	/			
IV. Continuing calibration:				
Was a routine calibration performed at the beginning and end of each 12 hour period?	/			
Were all percent differences (%D) ≤ 20% for unlabeled standards and ≤ 30% for labeled standards?	/			
Did all routine calibration standards meet the Ion Abundance Ratio criteria?	/			
V. Blanks:				
Was a method blank associated with every sample in this SDG?	/			
Was a method blank performed for each matrix and concentration?	/			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet?			/	
VI. Matrix spike/Matrix spike duplicates:				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		/		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			/	
VII. Laboratory control samples:				
Was an LCS analyzed for this SDG?	/			
Was an LCS analyzed per extraction batch?	/			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	/			

Validation Area	Yes	No	NA	Findings/Comments
VIII. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		/		
Were the performance evaluation (PE) samples within the acceptance limits?			/	
IX. Internal standards				
Were internal standard recoveries within the 40-135% criteria?	/			
Was the minimum S/N ratio of all internal standard peaks > 10?	/			
X. Target compound identification				
For 2,3,7,8 substituted congeners with associated labeled standards, were the retention times of the two quantitation peaks within -1 to 3 sec. of the RT of the labeled standard?	/			
For 2,3,7,8 substituted congeners without associated labeled standards, were the relative retention times of the two quantitation peaks within 0.005 time units of the RRT measured in the routine calibration?	/			
For non-2,3,7,8 substituted congeners, were the retention times of the two quantitation peaks within RT established in the performance check solution?	/			
Did compound spectra contain all characteristic ions listed in the table attached?	/			
Was the Ion Abundance Ratio for the two quantitation ions within criteria?	/			
Was the signal to noise ratio for each target compound and labeled standard \geq 2.5?	/			
Does the maximum intensity of each specified characteristic ion coincide within \pm 2 seconds (includes labeled standards)?	/			
For PCDF identification, was any signal ($S/N \geq 2.5$, at \pm seconds RT) detected in the corresponding PCDPE channel?	/			
Was an acceptable lock mass recorded and monitored?	/			
XI. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	/			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	/			
XII. System performance				
System performance was found to be acceptable.	/			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	/			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		/		
Target compounds were detected in the field duplicates.			/	
XV. Field blanks				
Field blanks were identified in this SDG.	/			
Target compounds were detected in the field blanks.	/			

VALIDATION FINDINGS WORKSHEET

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

A. 2,3,7,8-TCDD	F. 1,2,3,4,6,7,8-HpCDD	K. 1,2,3,4,7,8-HxCDF	P. 1,2,3,4,7,8,9-HpCDF	U. Total HpCDD
B. 1,2,3,7,8-PeCDD	G. OCDD	L. 1,2,3,6,7,8-HxCDF	Q. OCDF	V. Total TCDF
C. 1,2,3,4,7,8-HxCDD	H. 2,3,7,8-TCDF	M. 2,3,4,6,7,8-HxCDF	R. Total TCDD	W. Total PeCDF
D. 1,2,3,6,7,8-HxCDD	I. 1,2,3,7,8-PeCDF	N. 1,2,3,7,8,9-HxCDF	S. Total PeCDD	X. Total HxCDF
E. 1,2,3,7,8,9-HxCDD	J. 2,3,4,7,8-PeCDF	O. 1,2,3,4,6,7,8-HpCDF	T. Total HxCDD	Y. Total HpCDF

Notes: _____

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is}) / (A_{is})(C_x)$
 average RRF = sum of the RRFs/number of standards
 $\%RSD = 100 * (S/X)$

A_x = Area of Compound
 A_{is} = Area of associated internal standard
 C_x = Concentration of compound,
 C_{is} = Concentration of internal standard
 S = Standard deviation of the RRFs,
 X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (0.5/2.5/5 std)	Recalculated RRF (0.5/2.5/5 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	6/30/2010	2,3,7,8-TCDF (13C-2,3,7,8-TCDF)	0.944	0.944	0.986	0.986	5.3	5.3
	M2A		2,3,7,8-TCDD (13C-2,3,7,8-TCDD)	0.897	0.897	1.021	1.021	9.2	9.3
			1,2,3,6,7,8-HxCDD (13C-1,2,3,6,7,8-HxCDD)	0.939	0.939	0.943	0.943	2.9	2.9
			1,2,3,4,6,7,8-HpCDD (13C-1,2,4,6,7,8-HpCDD)	1.096	1.096	1.037	1.037	4.2	4.2
			OCDD (13C-OCDD)	1.048	1.048	1.011	1.011	3.5	3.5

Cis/Cx	Area cpd	Area IS
100/5	13459	2852888
100/5	9289	2070083
100/2.5	40427	1721480
100/2.5	45039	1643630
100/5	83135	3172926

Conc	2,3,7,8-TCDF	2,3,7,8-TCDD	1,2,3,6,7,8-HxCDD	1,2,3,4,6,7,8-HpCDD	OCDD
0.5/2.5/5	0.944	0.897	0.939	1.096	1.048
2/10/20	1.075	1.160	0.989	1.073	1.050
10/50/100	0.965	1.029	0.934	1.009	0.983
40/200/400	0.961	0.991	0.940	1.003	0.982
200/1000/2000	0.984	1.026	0.915	1.006	0.991
X =	0.986	1.021	0.943	1.037	1.011
S =	0.0519	0.0945	0.0274	0.0438	0.0351

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
 Continuing Calibration Results Verification

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRF's) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

$\% \text{ Difference} = 100 * (\text{ave. RRF} - \text{RRF}) / \text{ave. RRF}$ $\text{ave. RRF} = \text{ICAL average RRF}$ $\text{Cx} = \text{Concentration of compound}$
 $\text{RRF} = (\text{Ax}) / (\text{Cis}) / (\text{Ais}) / (\text{Cx})$ $\text{RRF} = \text{CCV RRF}$ $\text{Ais} = \text{Area of associated internal standard}$
 $\text{Ax} = \text{Area of compound}$ $\text{Cis} = \text{Concentration of internal standard}$

#	Standard ID	Calibration Date	Compound (IS)	Average RRF (Initial RRF)	Reported (CC RRF)	Recalculated (CC RRF)	Reported %D	Recalculated %D
1	b110420s2	04/20/11	2,3,7,8-TCDF (13C-2,3,7,8-TCDF)	0.986	1.050	1.050	6.5	6.5
			2,3,7,8-TCDD (13C-2,3,7,8-TCDD)	1.021	1.176	1.176	15.2	15.2
			1,2,3,6,7,8-HxCDD (13C-1,2,3,6,7,8-HxCDD)	0.943	0.999	0.999	5.9	5.8
			1,2,3,4,6,7,8-HpCDD (13C-1,2,4,6,7,8-HpCDD)	1.037	1.039	1.039	0.2	0.2
			OCDF (13C-OCDD)	1.167	1.165	1.165	0.2	0.2

Compound (IS)	Concentration (IS/Cpd)	Area Cpd	Area IS
2,3,7,8-TCDF (13C-2,3,7,8-TCDF)	100/10	357173	3401959
2,3,7,8-TCDD (13C-2,3,7,8-TCDD)	100/10	246466	2096536
1,2,3,6,7,8-HxCDD (13C-1,2,3,6,7,8-HxCDD)	100/50	1002044	2007060
1,2,3,4,6,7,8-HpCDD (13C-1,2,4,6,7,8-HpCDD)	100/50	997598	1920214
OCDF (13C-OCDD)	100/50	2082959	3576272

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

METHOD: GC/MS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = $100 * SSC/SA$ Where: SSC = Spiked sample concentration
SA = Spike added

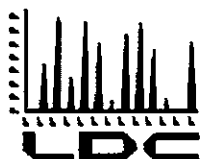
RPD = $|(LCS - LCSD) / 2(LCS + LCSD)|$

LCS = Laboratory control sample percent recovery LCSD = Laboratory control sample duplicate percent recovery

LCS ID: 1108103 - LCS

Compound	Spike Added (pg/L)		Spiked Sample Concentration (pg/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
2,3,7,8-TCDD	200	NA	188	NA	94	94				
1,2,3,7,8-PeCDD	1000		874		87	87				
1,2,3,4,7,8-HxCDD			741		74	74				
1,2,3,4,7,8,9-HpCDF			861		86	86				
OCDF	2000		1740		87	87				

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

June 21, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Level IV Data Validation

Dear Mr. Reiners,

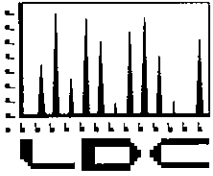
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on June 15, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25667:

<u>SDG #</u>	<u>Fraction</u>
280-14379-1	Semivolatiles, Cyanide
280-14432-1, 280-14967-1	Herbicides
280-14437-1/H1D120409, 280-14490-1/H1D130480, 280-14530-1/H1D140421, 280-14974-1/H1D260440, 280-15013-1/H1D270520, 280-15128-1/H1D300401	Dioxins/Dibenzofurans
280-14484-1/A1D120533	Chlorinated Pesticides, Herbicides, Wet Chemistry
280-14519-1, 280-14865-1	Herbicides, Cyanide
280-14655-1	Volatiles, Herbicides
280-14702-1	Semivolatiles, Herbicides
280-15011-1	Volatiles
280-15069-1, 280-15184-1	Cyanide
280-15126-1	Semivolatiles, Wet Chemistry

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010



- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV LDC #25667 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		SVOA (8270C)		Pest. (8081A)		Herbs (8151A)		Dioxins (8290)		CN- (9012A)		S= (4500 -S2 D)		W S		W S		W S		W S		W S		W S			
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
Matrix: Water/Soil																															
A	280-14379-1	06/15/11	06/22/11	-	-	3	0	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
B	280-14432-1	06/15/11	06/22/11	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
C	280-14437-1/ H1D120409	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
D	280-14484-1/ A1D120533	06/15/11	06/22/11	-	-	-	-	1	0	1	0	-	-	2	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	
E	280-14490-1/ H1D130480	06/15/11	06/22/11	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
F	280-14519-1	06/15/11	06/22/11	-	-	-	-	-	-	1	0	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
G	280-14530-1/ H1D140421	06/15/11	06/22/11	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
H	280-14655-1	06/15/11	06/22/11	1	0	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
I	280-14702-1	06/15/11	06/22/11	-	-	1	0	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
J	280-14865-1	06/15/11	06/22/11	-	-	-	-	-	2	0	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
K	280-14967-1	06/15/11	06/22/11	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
L	280-14974-1/ H1D260440	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
M	280-15011-1	06/15/11	06/22/11	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
N	280-15013-1/ H1D270520	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
O	280-15069-1	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
P	280-15126-1	06/15/11	06/22/11	-	-	1	0	-	-	-	-	-	-	3	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	
Q	280-15128-1/ /H1D300401	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R	280-15184-1	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total				2	0	5	0	1	0	9	0	8	0	10	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 11, 2011

LDC Report Date: June 20, 2011

Matrix: Water

Parameters: Chlorinated Pesticides

Validation Level: Level IV

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14484-1

Sample Identification

SH-09_041111_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of single compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990 .

Retention time windows were evaluated and considered technically acceptable.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

The individual 4,4'-DDT and Endrin breakdowns (%BD) were less than or equal to 15.0% .

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No chlorinated pesticide contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No chlorinated pesticide contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

All target compound identifications were within validation criteria.

XIII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria.

The sample results for detected compounds from the two columns were within 40% relative percent difference (RPD) with the following exceptions:

Sample	Compound	RPD	Flag	A or P
SH-09_041111_01	Endrin aldehyde	164.3	J (all detects)	A

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14484-1	All compounds reported below the RL.	J (all detects)	A

XIV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Data Qualification Summary - SDG 280-14484-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14484-1	SH-09_041111_01	Endrin aldehyde	J (all detects)	A	Compound quantitation and CRQLs (RPD) (*XIII)
280-14484-1	SH-09_041111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 280-14484-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Field Blank Data Qualification Summary - SDG 280-14484-1**

No Sample Data Qualified in this SDG

LDC #: 25667D3a
 SDG #: 280-14484-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level IV

Date: 9/17/11
 Page: 1 of 1
 Reviewer: SVB
 2nd Reviewer: [Signature]

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 9/11/11
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	σ_2 RSD $\leq 20\%$ r ²
IV.	Continuing calibration/ICV	A	CV/ICV $\leq 20\%$
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS ID
IX.	Regional quality assurance and quality control	N	
X.	Florisil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	A	
XIII.	Compound quantitation and reported CRQLs	SW	
XIV.	Overall assessment of data	A	
XV.	Field duplicates	N	
XVI.	Field blanks	ND	EB = EB-SH-04-040711 (from 280-14379-1) FB =

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: Water

1	SH-09_041111_01	11	MB 280-62121/1-A	21	31
2		12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Method: Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	/			
Cooler temperature criteria was met.	/			
II. GC/ECD Instrument performance check				
Was the instrument performance found to be acceptable?	/			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	/			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) \leq 20%?	/			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?	/			
Did the initial calibration meet the curve fit acceptance criteria?	/			
Were the RT windows properly established?	/			
Were the required standard concentrations analyzed in the initial calibration?	/			
IV. Continuing calibration				
What type of continuing calibration calculation was performed? <u> </u> %D or <u> </u> %R	/			
Were Evaluation mix standards analyzed prior to the initial calibration and sample analysis?	/			
Were endrin and 4,4'-DDT breakdowns \leq 15%.0 for individual breakdown in the Evaluation mix standards?	/			
Was a continuing calibration analyzed daily?	/			
Were all percent differences (%D) \leq 20%.0 or percent recoveries 80-120%?	/			
Were all the retention times within the acceptance windows?	/			
V. Blanks				
Was a method blank associated with every sample in this SDG?	/			
Was a method blank analyzed for each matrix and concentration?	/			
Were extract cleanup blanks analyzed with every batch requiring clean-up?	/			
Was there contamination in the method blanks or clean-up blanks? If yes, please see the Blanks validation completeness worksheet.		/		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	/			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			/	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			/	

Validation Area	Yes	No	NA	Findings/Comments
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		/		
Was a MS/MSD analyzed every 20 samples of each matrix?		/		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			/	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	/			
Was an LCS analyzed per extraction batch?	/			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	/			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		/		
Were the performance evaluation (PE) samples within the acceptance limits?			/	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	/			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions, dry weight factors, and clean-up activities applicable to level IV validation?	/			
XII. System performance				
System performance was found to be acceptable.	/			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	/			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		/		
Target compounds were detected in the field duplicates.			/	
XV. Field blanks				
Field blanks were identified in this SDG.	/			
Target compounds were detected in the field blanks.		/		

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG. Chlordane
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH. Chlordane (Technical)
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II. Aroclor 1262
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ. Aroclor 1268
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. 2,4'-DDD	KK. oxy Chlordane
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. 2,4'-DDE	LL. trans-Nonachlor
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE. 2,4'-DDT	MM. cis-Nonachlor
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF. Hexachlorobenzene	NN.

Notes:

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: GC Pesticides (EPA SW 846 Method 8081)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

Where

$$RRF = (A_x)(C_{is}) / (A_{is})(C_x)$$

average RRF = sum of the RRFs/number of standards

$$\%RSD = 100 * (S/X)$$

A_x = Area of Compound
 A_{is} = Area of associated internal standard
 C_x = Concentration of compound,
 C_{is} = Concentration of internal standard
 S = Standard deviation of the RRFs,
 X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound	Reported RRF (100 std)	Recalculated RRF (100 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	4/11/2011	g-BHC (CLP1)	24618	14865	24845	24845	1.3	1.3
	GCS P2		Endrin aldehyde (CLP1)	13243	13065	14172	14172	5.2	5.2
			g-BHC (CLP2)	see r2 calc					
			Endrin aldehyde (CLP1)	see r2 calc					

Compound	Conc	Response cpd
g-BHC (CLP1)	100	1486488
Endrin aldehyde (CLP1)	100	1306452
g-BHC (CLP2)	100	
Endrin aldehyde (CLP1)	100	

Conc	CLP1		CLP2	
	g-BHC	Endrin aldehyde	g-BHC	Endrin aldehyde
4	24728.0	15228.0	r2	r2
10	24911.0	14604.0		
25	25286.0	14503.0		
50	25086.0	13891.0		
75	24440.0	13563.0		
100	24618.0	13243.0		
S =	24844.8	14172.0	#DIV/0!	#DIV/0!
X =	312	738	#DIV/0!	#DIV/0!

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Method: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

Calibration Date	Instrument/Column	Compound	Standard	(Y) Conc	(X) Response	(X ²) Response
4/11/2011	GCS P2 RTX-CLP1	g-BHC	1	4.0	386595	149455694025
			2	10.0	902682	814834793124
			3	25.0	2129885	4536410113225
			4	50.0	4016661	16133565588921
			5	75.0	5681771	32282521696441
			6	100.0	7393268	54660411719824

CF
96648.8
90268.2
85195.4
80333.2
75756.9
73932.7
83689.2

Ave

	Regression Output	
	Calculated	Reported
Constant	b = -0.70598	b = -0.70598
Std Err of Y Est		
Coefficient of Determination (r ²)	r ² = 0.9998659	r ² = 0.9998
Degrees of Freedom		
X Coefficient(s)	m1 = m2 =	m1 = m2 =
Std Err of Coef.	1.15956E-05 2.79995E-13	1.15956E-05 2.79995E-13
Correlation Coefficient	0.999933	

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Method: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

Calibration Date	Instrument/Column	Compound	Standard	(Y) Conc	(X) Response	(X ²) Response
4/11/2011	GCS P2 RTX-CLP1	Endrin aldehyde	1	4.0	232954	54267566116
			2	10.0	526516	277219098256
			3	25.0	1232469	1518979835961
			4	50.0	2267892	5143334123664
			5	75.0	3238770	1048963112900
			6	100.0	4150462	17226334813444

CF
58238.5
52651.6
49298.8
45367.8
43183.6
41504.6
Ave 48372.5

	Regression Output	
	Calculated	Reported
Constant	b = -0.83879	b = -0.83879
Std Err of Y Est		
Coefficient of Determination (r ²)	r ² 0.9999704	r ² 0.9998
Degrees of Freedom		
X Coefficient(s)	m1 = m2 =	m1 = m2 =
Std Err of Coef.	1.99696E-05 1.04886E-12	1.99696E-05 1.04886E-12
Correlation Coefficient	0.999985	

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

METHOD: GC Pesticides (EPA SW 846 Method 8081)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

Where:
 $\% \text{ Difference} = 100 * (\text{ave. RRF} - \text{RRF}) / \text{ave. RRF}$
 $\text{RRF} = (\text{Ax}) / (\text{Cis}) / (\text{Ais}) / (\text{Cx})$

Cx = Concentration of compound,
 Ais = Area of associated internal standard
 Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound	Average RRF Conc	Reported RRF (CC)	Recalculated RRF (CC)	Reported % D	Recalculated %D
1	04150006	4/11/2011	g-BHC (CLP1)	50.00	47.047	47.047	5.9	5.9
			Endrin aldehyde (CLP1)	50.00	44.842	44.842	10.3	10.3
			g-BHC (CLP2)	50.00	46.203	46.203	7.6	7.6
			Endrin aldehyde (CLP2)	50.00	43.552	43.552	12.9	12.9

CCV1

Compound	CF	Response
g-BHC (CLP1)	24845	1168867
Endrin aldehyde (CLP1)	14172	635505
g-BHC (CLP2)		3712592
Endrin aldehyde (CLP2)		2010601

$Y = m2(X) + m1 X2 + b$

(Where Y= conc X= Response)

Sample #1	X	X2	b	m1	m2
g-BHC (CLP2)	3712592	1.378E+13	-0.70598	2.8000E-13	1.1596E-05
Endrin aldehyde (CLP2)	2010601	4.043E+12	-0.83879	1.0489E-12	1.9970E-05
	128030	1.639E+10	-0.83879	1.0489E-12	1.9970E-05

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: $SF/SS * 100$

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: # 1

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene	RTK-CP1	20	13.5	67	67	0
Tetrachloro-m-xylene	2		13.8	69	69	
Decachlorobiphenyl	1		16.9	84	84	
Decachlorobiphenyl	2		18.0	90	90	

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Notes: _____

LDC #: 25667 b3c

VALIDATION FINDINGS WORKSHEET

Page: 1 of 1

Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Reviewer: [Signature]

2nd Reviewer:

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSC-SC)/SA Where: SSC = Spiked sample concentration SC = Concentration SA = Spike added

RPD = | LCS - LCSD | * 2 / (LCS + LCSD) LCS = Laboratory control sample percent recovery LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: LCS / D 280 - 6212 / 2, 2-A

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
gamma-BHC	0.500	0.500	0.440	0.436	88	88	87	87	1	1
4,4'-DDT	↓	↓	0.465	0.457	93	93	91	91	2	2
Aroclor 1260										

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Y N N/A
Y N N/A

Were all reported results recalculated and verified for all level IV samples?

Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Example:

Sample I.D. # R: Cal. Y

$$\text{Conc.} = (1.639e+10)(1.0489e-12) + (128070)(1.997e-5) - 0.83879$$

$$= 0.0172 + 2.56 - 0.83879$$

$$= 1.735$$

$$\text{final conc.} = \frac{(1.735)(10\text{ml})}{(960.5\text{ml})}$$

$$= 0.018 \text{ } \mu\text{g/L}$$

#	Sample ID	Compound	Reported Concentration ()	Calculated Concentration ()	Qualification

Note: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 11, 2011

LDC Report Date: June 20, 2011

Matrix: Water

Parameters: Herbicides

Validation Level: Level IV

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14484-1

Sample Identification

SH-09_041111_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8151A for Herbicides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration of compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Retention time windows were evaluated and considered technically acceptable.

III. Calibration Verification

Calibration verification was performed at the required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No herbicide contaminants were found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No herbicide contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No herbicide contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/(Matrix Spike) Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

All target compound identifications were within validation criteria.

IX. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

The sample results for detected compounds from the two columns were within 40% relative percent difference (RPD) with the following exceptions:

Sample	Compound	RPD	Flag	A or P
SH-09_041111_01	Dinoseb 2,4-D	199.4 122.5	J (all detects) J (all detects)	A

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14484-1	All compounds reported below the RL.	J (all detects)	A

X. System Performance

The system performance was acceptable.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Data Qualification Summary - SDG 280-14484-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14484-1	SH-09_041111_01	Dinoseb 2,4-D	J (all detects) J (all detects)	A	Compound quantitation and CRQLs (RPD) (*IX)
280-14484-1	SH-09_041111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Laboratory Blank Data Qualification Summary - SDG 280-14484-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Field Blank Data Qualification Summary - SDG 280-14484-1**

No Sample Data Qualified in this SDG

LDC #: 25667D5
 SDG #: 280-14484-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level IV

Date: 6/6/11
 Page: 1 of 1
 Reviewer: JVG
 2nd Reviewer: [Signature]

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/11/11
II	Initial calibration	A	2 RSD < 20% ✓
III.	Calibration verification/ICV	A	CV/ICV < 20%
IV.	Blanks	A	
V	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	A	LCS/D spec
VIII.	Target compound identification	A	
IX.	Compound Quantitation and CRQLs	SW	
X.	System Performance	A	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	FB = FB-041411-19 (280-14484-1) EB = EB-SH-04-090711 (280-14379-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

1	SH-09_041111_01	11	MB 280-62178/1-A	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Method: GC HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	/			
Cooler temperature criteria was met.	/			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	/			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) < 20%?	/			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?	/			
Did the initial calibration meet the curve fit acceptance criteria?	/			
Were the RT windows properly established?	/			
III. Continuing calibration				
What type of continuing calibration calculation was performed? <u> </u> %D or <u> </u> %R	/			
Was a continuing calibration analyzed daily?	/			
Were all percent differences (%D) < 20%.0 or percent recoveries 80-120%?	/			
Were all the retention times within the acceptance windows?		/		
IV. Blanks				
Was a method blank associated with every sample in this SDG?	/			
Was a method blank analyzed for each matrix and concentration?	/			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.			/	
V. Surrogate spikes				
Were all surrogate %R within the QC limits?	/			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			/	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			/	
VI. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		/		
Was a MS/MSD analyzed every 20 samples of each matrix?		/		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			/	
VII. Laboratory control samples				
Was an LCS analyzed for this SDG?	/			
Was an LCS analyzed per extraction batch?	/			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	/			
VIII. Regional Quality Assurance and Quality Control				

VALIDATION FINDINGS CHECKLIST

Validation Area	Yes	No	NA	Findings/Comments
Were performance evaluation (PE) samples performed?		/		
Were the performance evaluation (PE) samples within the acceptance limits?			/	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	/			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	/			
XII. System performance				
System performance was found to be acceptable.	/			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	/			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		/		
Target compounds were detected in the field duplicates.			/	
XV. Field blanks				
Field blanks were identified in this SDG.	/			
Target compounds were detected in the field blanks.		/		

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The calibration factors (CF), average CF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

CF = A/C
 average CF = sum of the CF/number of standards
 %RSD = $100 * (S/X)$

Where:
 A = Area of compound
 C = Concentration of compound
 S = Standard deviation of calibration factors
 X = Mean of calibration factors

#	Standard ID	Calibration Date	Compound	Reported RRF (100 std)	Recalculated RRF (100 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	4/22/2011	Dinoseb (DB-35MS)	591.63	592.17	558.27	558.27	4.8	4.8
	GCS M		Dinoseb (DB-XLB)	565.40	565.91	534.59	534.59	8.4	8.4

Dinoseb

DB35MS	
18.9	575.43
47.2	566.52
236	591.63
472	520.96
709	527.62
945	547.05
1890	578.68
S =	558.27
X =	27

DB-XLB	
18.8	600.99
47.0	576.24
235.0	565.40
470.0	492.63
705.0	496.43
940.0	502.13
1881.0	508.34
S =	534.59
X =	45

Conc DB-35MS DB-XLB
 236 139752 133555

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration percent difference (%D) values were recalculated for the compounds identified below using the following calculation:

Where:

$$\text{Percent difference (\%D)} = 100 * (N - C) / N$$

N = Initial Calibration Factor or Nominal Amount
C = Calibration Factor from Continuing Calibration Standard or Calculated Amount

#	Standard ID	Calibration Date	Compound	Average RRF	Reported RRF (CC)	Recalculated RRF (CC)	Reported % D	Recalculated % D
1			Disoseb (DB 35MS)	558.27	See ICAL			
			Dinoseb (DB XLB)	534.59				

CCV1

Compound	Response	Conc
Disoseb (DB 35MS)		472.428
Dinoseb (DB XLB)		472.428

LDC #: 25667 DS

VALIDATION FINDINGS WORKSHEET

Surrogate Results Verification

Page: 1 of 1
Reviewer: JVG
2nd reviewer: [Signature]

METHOD: GC HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: $SF/SS * 100$
Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: # 1

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery		Percent Difference
				Reported	Recalculated	
DCPAA	DB 75 MS	500	495.67	99	99	0
	DB XLP	8	447.402	89	89	0

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery		Percent Difference
				Reported	Recalculated	

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery		Percent Difference
				Reported	Recalculated	

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

METHOD: GC HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = $100 * (SSC - SC) / SA$

Where SSC = Spiked sample concentration
 SA = Spike added

SC = Sample concentration

RPD = $((SSCLCS - SSCLCSD) * 2) / (SSCLCS + SSCLCSD) * 100$

LCS = Laboratory Control Sample

LCS/D = Laboratory Control Sample duplicate

LCS/LCSD samples: LCS 15 280 - 62178 / 2,3-A

Compound	Spike Added (45)		Spike Sample Concentration (49)		LCS		LCS/D		LCS/LCSD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)										
Diesel (8015)										
Benzene (8021B)										
Methane (RSK-175)										
2,4-D (8151)	4.60	4.60	6.08	5.48	132	132	119	119	10	10
Dinoseb (8151)										
Naphthalene (8310)										
Anthracene (8310)										
HMX (8330)										
2,4,6-Trinitrotoluene (8330)										

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

METHOD: GC HPLC

Y/N N/A
 Y/N N/A

Were all reported results recalculated and verified for all level IV samples?
 Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration = $\frac{A)(F_v)(D_f)}{(RF)(V_s \text{ or } W_s)(\%S/100)}$

A= Area or height of the compound to be measured
 F_v= Final Volume of extract
 D_f= Dilution Factor
 RF= Average response factor of the compound
 in the initial calibration
 V_s= Initial volume of the sample
 W_s= Initial weight of the sample
 %S= Percent Solid

Example:

Sample ID: #1 Compound Name Dinoseb (DBXVB)
 Concentration = $\frac{(259.52)}{(524.59)} (10 \text{ mL})$ = 0.487
 $\approx 0.48 \text{ mg/L}$

#	Sample ID	Compound	Reported Concentrations	Recalculated Results Concentrations	Qualifications

Comments:

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 11, 2011

LDC Report Date: June 16, 2011

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Level IV

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14484-1

Sample Identification

RD-11_041111_01

RD-12_041111_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 9012A for Cyanide and Standard Method 4500-S2 D for Sulfide.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

All criteria for the initial calibration of each method were met.

III. Calibration Verification

Calibration verification frequency and analysis criteria were met for each method when applicable.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the initial, continuing and preparation blanks.

No field blanks were identified in this SDG.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All sample result verifications were acceptable.

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-14484-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-14484-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-14484-1	RD-11_041111_01 RD-12_041111_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-14484-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-14484-1**

No Sample Data Qualified in this SDG

LDC #: 25667D6
 SDG #: 280-14484-1
 Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level IV

Date: 6/16/11
 Page: 1 of 1
 Reviewer: OR
 2nd Reviewer: [Signature]

METHOD: (Analyte) Cyanide (EPA SW846 Method 9012A), Sulfide (SM4500-S2 D)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4-11-11
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	A	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/D
V	Duplicates	N	
VI.	Laboratory control samples	A	LCS/D
VII.	Sample result verification	A	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	RD-11_041111_01	11	PAW	21	31
2	RD-12_041111_01	12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

Method: Inorganics (EPA Method See cover)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Cooler temperature criteria was met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
II. Calibration				
Were all instruments calibrated daily, each set-up time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were the proper number of standards used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all initial calibration correlation coefficients > 0.995?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all initial and continuing calibration verification %Rs within the 90-110% QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were titrant checks performed as required? (Level IV only)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Were balance checks performed as required? (Level IV only)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
III. Blanks				
Was a method blank associated with every sample in this SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of ≤ CRDL (≤ 2X CRDL for soil) was used for samples that were ≤ 5X the CRDL, including when only one of the duplicate sample values were ≤ 5X the CRDL.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
V. Laboratory control samples				
Was an LCS analyzed for this SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was an LCS analyzed per extraction batch?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% (85-115% for Method 300.0) QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were the performance evaluation (PE) samples within the acceptance limits?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Validation Area	Yes	No	NA	Findings/Comments
<i>VII. Sample Result Verification</i>				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were detection limits < RL?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>VIII. Overall assessment of data</i>				
Overall assessment of data was found to be acceptable.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>IX. Field duplicates</i>				
Field duplicate pairs were identified in this SDG.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Target analytes were detected in the field duplicates.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<i>X. Field blanks</i>				
Field blanks were identified in this SDG.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Target analytes were detected in the field blanks.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Validation Findings Worksheet
Initial and Continuing Calibration Calculation Verification

Method: Inorganics, Method See Cover

The correlation coefficient (r) for the calibration of CN was recalculated. Calibration date: 4/14/11

An initial or continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

%R = $\frac{\text{Found} \times 100}{\text{True}}$

Where, Found = concentration of each analyte measured in the analysis of the ICV or CCV solution

True = concentration of each analyte in the ICV or CCV source

Type of analysis	Analyte	Standard	Conc. (mg/l)	Area	Recalculated		Reported		Acceptable (Y/N)
					r or r ²	r or r ²	r or r ²	r or r ²	
Initial calibration	CN	s1	0	906	0.999991	NA			
		s2	10	6561					
		s3	20	11916					
		s4	50	26742					
		s5	100	52397					
		s6	200	102450					
		s7	400	204197					
Calibration verification	Sulfide	CCV	0.5	0.510	102	-	-	-	
Calibration verification	CN	ICV	100	102.1	102	-	-	-	
Calibration verification	J	CCV	200	200.5	100	-	-	-	

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 2866710

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Page: 1 of 1
Reviewer: RR
2nd Reviewer: [Signature]

METHOD: Inorganics, Method SEE COVER

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$
 Where, Found =

concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result). True = concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$$RPD = \frac{|S-D|}{(S+D)/2} \times 100$$
 Where, S = Original sample concentration
D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	Found / S (µg/L) mg/L	True / D (µg/L) mg/L	Recalculated		Acceptable (Y/N)
					%R / RPD	%R / RPD	
LC5	Laboratory control sample	S	0.539	0.508	106	106	Y
SH-00-011111-01	Matrix spike sample	CN	0.092 (SSR-SR)	0.1	96	96	Y
↓	Duplicate sample	S	0.422	0.416	2	2	Y

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

June 21, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Level IV Data Validation

Dear Mr. Reiners,

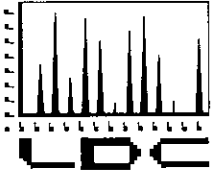
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on June 15, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25667:

<u>SDG #</u>	<u>Fraction</u>
280-14379-1	Semivolatiles, Cyanide
280-14432-1, 280-14967-1	Herbicides
280-14437-1/H1D120409, 280-14490-1/H1D130480, 280-14530-1/H1D140421, 280-14974-1/H1D260440, 280-15013-1/H1D270520, 280-15128-1/H1D300401	Dioxins/Dibenzofurans
280-14484-1/A1D120533	Chlorinated Pesticides, Herbicides, Wet Chemistry
280-14519-1, 280-14865-1	Herbicides, Cyanide
280-14655-1	Volatiles, Herbicides
280-14702-1	Semivolatiles, Herbicides
280-15011-1	Volatiles
280-15069-1, 280-15184-1	Cyanide
280-15126-1	Semivolatiles, Wet Chemistry

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010



- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV LDC #25667 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		SVOA (8270C)		Pest. (8081A)		Herbs (8151A)		Dioxins (8290)		CN- (9012A)		S= (4500 -S2 D)																									
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S						
Matrix: Water/Soil																																									
A	280-14379-1	06/15/11	06/22/11	-	-	3	0	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
B	280-14432-1	06/15/11	06/22/11	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
C	280-14437-1/ H1D120409	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
D	280-14484-1/ A1D120533	06/15/11	06/22/11	-	-	-	-	1	0	1	0	-	-	2	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
E	280-14490-1/ H1D130480	06/15/11	06/22/11	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
F	280-14519-1	06/15/11	06/22/11	-	-	-	-	-	-	1	0	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
G	280-14530-1/ H1D140421	06/15/11	06/22/11	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
H	280-14655-1	06/15/11	06/22/11	1	0	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
I	280-14702-1	06/15/11	06/22/11	-	-	1	0	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
J	280-14865-1	06/15/11	06/22/11	-	-	-	-	-	2	0	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K	280-14967-1	06/15/11	06/22/11	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L	280-14974-1/ H1D260440	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M	280-15011-1	06/15/11	06/22/11	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N	280-15013-1/ H1D270520	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O	280-15069-1	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P	280-15126-1	06/15/11	06/22/11	-	-	1	0	-	-	-	-	-	-	3	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Q	280-15128-1 /H1D300401	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R	280-15184-1	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total				2	0	5	0	1	0	9	0	8	0	10	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37	

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 11, 2011

LDC Report Date: June 17, 2011

Matrix: Water

Parameters: Dioxins/Dibenzofurans

Validation Level: EPA Level IV

Laboratory: Test America Inc.

Sample Delivery Group (SDG): 280-14490-1/H1D120480

Sample Identification

SH-09_041111_01

RD-11_041111_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance was checked at the required daily frequency.

Retention time windows were established for all homologues.

The chromatographic resolution between 2,3,7,8-TCDD and the peaks representing any other unlabeled TCDD isomers was resolved with a valley of less than or equal to 25%.

The exact mass of 380.9760 of PFK was verified.

The static resolving power was at least 10,000 (10% valley definition).

III. Initial Calibration

A five point initial calibration was performed as required by the method.

Percent relative standard deviations (%RSD) were less than or equal to 20.0% for unlabeled compounds and less than or equal to 30.0% for labeled compounds.

The ion abundance ratios for all PCDDs and PCDFs were within validation criteria.

The minimum S/N ratio for each target compound was greater than or equal to 2.5 and greater than or equal to 10 for each recovery and internal standard compound.

IV. Routine Calibration (Continuing)

Routine calibration was performed at the required frequencies.

All of the routine calibration percent differences (%D) between the initial calibration RRF and the routine calibration RRF were less than or equal to 20.0% for unlabeled compounds and less than or equal to 30.0% for labeled compounds.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for unlabeled compounds and less than or equal to 30.0% for labeled compounds.

The ion abundance ratios for all PCDDs and PCDFs were within validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
1108103-MB	4/18/11	OCDD	36 pg/L	All samples in SDG 280-14490-1/H1D120480

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
SH-09_041111_01	OCDD	100 pg/L	100U pg/L
RD-11_041111_01	OCDD	7.7 pg/L	7.7U pg/L

Sample EB_SH-04_040711 (from SDG 280-14402-1/H1D090407) was identified as an equipment blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14659-1) was identified as a field blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. The percent recoveries (%R) were within the QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

All internal standard recoveries were within QC limits.

X. Target Compound Identifications

All target compound identifications were within validation criteria.

XI. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14490-1/H1D120480	All compounds reported below the RL.	J (all detects)	A

XII. System Performance

The system performance was acceptable.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-14490-1/H1D120480**

SDG	Sample	Compound	Flag	A or P	Reason
280-14490-1/H1D120480	SH-09_041111_01 RD-11_041111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-14490-1/H1D120480**

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-14490-1/H1D120480	SH-09_041111_01	OCDD	100U pg/L	A	B
280-14490-1/H1D120480	RD-11_041111_01	OCDD	7.7U pg/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
 Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-14490-1/H1D120480**

No Sample Data Qualified in this SDG

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/11/11
II.	HRGC/HRMS Instrument performance check	A	
III.	Initial calibration	A	% RSD = 20% unlabeled, = 30% labeled
IV.	Routine calibration/ICV	A	CV/ICV = ↓ ↓
V.	Blanks	SW	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	LCS
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	A	
X.	Target compound identifications	A	
XI.	Compound quantitation and CRQLs	A	
XII.	System performance	A	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	ND	EB = EB-SH-09-040711 (from 280-14402-1/H1D090407) FB = FB-041411-19 (from SDG 280-14659-1)

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

1	SH-09_041111_01	11	1108103-MB	21	31
2	RD-11_041111_01	12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

Method: Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Cooler temperature criteria was met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
II. GC/MS Instrument performance check				
Was PFK exact mass 380.9760 verified?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were the retention time windows established for all homologues?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was the chromatographic resolution between 2,3,7,8-TCDD and peaks representing any other unlabeled TCDD isomers < 25% ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the static resolving power at least 10,000 (10% valley definition)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was the mass resolution adequately check with PFK?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was the presence of 1,2,8,9-TCDD and 1,3,4,6,8-PeCDF verified?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
III. Initial calibration				
Was the initial calibration performed at 5 concentration levels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all percent relative standard deviations (%RSD) ≤ 20% for unlabeled standards and < 30% for labeled standards?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Did all calibration standards meet the Ion Abundance Ratio criteria?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was the signal to noise ratio for each target compound ≥ 2.5 and for each recovery and internal standard > 10?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
IV. Continuing calibration				
Was a routine calibration performed at the beginning and end of each 12 hour period?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all percent differences (%D) ≤ 20% for unlabeled standards and ≤ 30% for labeled standards?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Did all routine calibration standards meet the Ion Abundance Ratio criteria?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
V. Blanks				
Was a method blank associated with every sample in this SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was a method blank performed for each matrix and concentration?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VI. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
VII. Laboratory control samples				
Was an LCS analyzed for this SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was an LCS analyzed per extraction batch?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Validation Area	Yes	No	NA	Findings/Comments
VIII. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		/		
Were the performance evaluation (PE) samples within the acceptance limits?			/	
IX. Internal standards				
Were internal standard recoveries within the 40-135% criteria?	/			
Was the minimum S/N ratio of all internal standard peaks > 10?	/			
X. Target compound identification				
For 2,3,7,8 substituted congeners with associated labeled standards, were the retention times of the two quantitation peaks within -1 to 3 sec. of the RT of the labeled standard?	/			
For 2,3,7,8 substituted congeners without associated labeled standards, were the relative retention times of the two quantitation peaks within 0.005 time units of the RRT measured in the routine calibration?	/			
For non-2,3,7,8 substituted congeners, were the retention times of the two quantitation peaks within RT established in the performance check solution?	/			
Did compound spectra contain all characteristic ions listed in the table attached?	/			
Was the Ion Abundance Ratio for the two quantitation ions within criteria?	/			
Was the signal to noise ratio for each target compound and labeled standard \geq 2.5?	/			
Does the maximum intensity of each specified characteristic ion coincide within \pm 2 seconds (includes labeled standards)?	/			
For PCDF identification, was any signal ($S/N \geq 2.5$, at \pm seconds RT) detected in the corresponding PCDF channel?	/			
Was an acceptable lock mass recorded and monitored?	/			
XI. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	/			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	/			
XII. System performance				
System performance was found to be acceptable.	/			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	/			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		/		
Target compounds were detected in the field duplicates.			/	
XV. Field blanks				
Field blanks were identified in this SDG.	/			
Target compounds were detected in the field blanks.		/		

VALIDATION FINDINGS WORKSHEET

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

A. 2,3,7,8-TCDD	F. 1,2,3,4,6,7,8-HpCDD	K. 1,2,3,4,7,8-HxCDF	P. 1,2,3,4,7,8,9-HpCDF	U. Total HpCDD
B. 1,2,3,7,8-PeCDD	G. OCDD	L. 1,2,3,6,7,8-HxCDF	Q. OCDF	V. Total TCDF
C. 1,2,3,4,7,8-HxCDD	H. 2,3,7,8-TCDF	M. 2,3,4,6,7,8-HxCDF	R. Total TCDD	W. Total PeCDF
D. 1,2,3,6,7,8-HxCDD	I. 1,2,3,7,8-PeCDF	N. 1,2,3,7,8,9-HxCDF	S. Total PeCDD	X. Total HxCDF
E. 1,2,3,7,8,9-HxCDD	J. 2,3,4,7,8-PeCDF	O. 1,2,3,4,6,7,8-HpCDF	T. Total HxCDD	Y. Total HpCDF

Notes: _____

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is}) / (A_{is})(C_x)$
 average RRF = sum of the RRFs/number of standards
 $\%RSD = 100 * (S/X)$

A_x = Area of Compound
 A_{is} = Area of associated internal standard
 C_x = Concentration of compound,
 C_{is} = Concentration of internal standard
 S = Standard deviation of the RRFs,
 X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (0.5/2.5/5 std)	Recalculated RRF (0.5/2.5/5 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	6/30/2010	2,3,7,8-TCDF (13C-2,3,7,8-TCDF)	0.944	0.944	0.986	0.986	5.3	5.3
	MZA		2,3,7,8-TCDD (13C-2,3,7,8-TCDD)	0.897	0.897	1.021	1.021	9.2	9.3
			1,2,3,6,7,8-HxCDD (13C-1,2,3,6,7,8-HxCDD)	0.939	0.939	0.943	0.943	2.9	2.9
			1,2,3,4,6,7,8-HpCDD (13C-1,2,4,6,7,8-HpCDD)	1.096	1.096	1.037	1.037	4.2	4.2
			OCDD (13C-OCDD)	1.048	1.048	1.011	1.011	3.5	3.5

Cis/Cx	Area cpd	Area IS
100/1.5	13459	2852888
100/1.5	9289	2070083
100/2.5	40427	1721480
100/2.5	45039	1643630
100/5	83135	3172926

Conc	2,3,7,8-TCDF	2,3,7,8-TCDD	1,2,3,6,7,8-HxCDD	1,2,3,4,6,7,8-HpCDD	OCDD
0.5/2.5/5	0.944	0.897	0.939	1.096	1.048
2/10/20	1.075	1.160	0.989	1.073	1.050
10/50/100	0.965	1.029	0.934	1.009	0.983
40/200/400	0.961	0.991	0.940	1.003	0.982
200/1000/2000	0.984	1.026	0.915	1.006	0.991
X =	0.986	1.021	0.943	1.037	1.011
S =	0.0519	0.0945	0.0274	0.0438	0.0351

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

METHOD: GC/MS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = $100 * SSC/SA$ Where: SSC = Spiked sample concentration
SA = Spike added

RPD = $|LCS - LCSD| * 2 / (LCS + LCSD)$

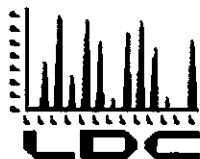
LCS = Laboratory control sample percent recovery

LCSD = Laboratory control sample duplicate percent recovery

LCS ID: 1108103-LCS

Compound	Spike Added (pg/L)		Spiked Sample Concentration (pg/L)		LCS		LCSD		Percent Recovery		RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
2,3,7,8-TCDD	200	NA	188	NA	94	94						
1,2,3,7,8-PeCDD	1000		874		87	87						
1,2,3,4,7,8-HxCDD			741		74	74						
1,2,3,4,7,8,9-HpCDF			861		86	86						
OCDF	2000	0	1740		87	87						

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

June 21, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Level IV Data Validation

Dear Mr. Reiners,

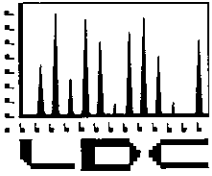
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on June 15, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25667:

<u>SDG #</u>	<u>Fraction</u>
280-14379-1	Semivolatiles, Cyanide
280-14432-1, 280-14967-1	Herbicides
280-14437-1/H1D120409, 280-14490-1/H1D130480, 280-14530-1/H1D140421, 280-14974-1/H1D260440, 280-15013-1/H1D270520, 280-15128-1/H1D300401	Dioxins/Dibenzofurans
280-14484-1/A1D120533	Chlorinated Pesticides, Herbicides, Wet Chemistry
280-14519-1, 280-14865-1	Herbicides, Cyanide
280-14655-1	Volatiles, Herbicides
280-14702-1	Semivolatiles, Herbicides
280-15011-1	Volatiles
280-15069-1, 280-15184-1	Cyanide
280-15126-1	Semivolatiles, Wet Chemistry

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010



- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 12, 2011

LDC Report Date: June 20, 2011

Matrix: Water

Parameters: Herbicides

Validation Level: Level IV

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14519-1

Sample Identification

HAR-27_041211_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8151A for Herbicides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration of compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Retention time windows were evaluated and considered technically acceptable.

III. Calibration Verification

Calibration verification was performed at the required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 20.0% QC limits with the following exceptions:

Date	Standard	Column	Compound	%D	Associated Samples	Flag	A or P
4/23/11	027B2701	DB-35MS	Dinoseb	52.5	All samples in SDG 280-14519-1	J (all detects) UJ (all non-detects)	A
4/23/11	027B2701	DB-XLB	Dinoseb	45.8	All samples in SDG 280-14519-1	J (all detects) UJ (all non-detects)	A

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No herbicide contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/(Matrix Spike) Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

All target compound identifications were within validation criteria.

IX. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

The sample results for detected compounds from the two columns were within 40% relative percent difference (RPD) with the following exceptions:

Sample	Compound	RPD	Flag	A or P
HAR-27_041211_01	Dinoseb	93.5	J (all detects)	A

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14519-1	All compounds reported below the RL.	J (all detects)	A

X. System Performance

The system performance was acceptable.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Data Qualification Summary - SDG 280-14519-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14519-1	HAR-27_041211_01	Dinoseb	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D) (C)
280-14519-1	HAR-27_041211_01	Dinoseb	J (all detects)	A	Compound quantitation and CRQLs (RPD) (*IX)
280-14519-1	HAR-27_041211_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Laboratory Blank Data Qualification Summary - SDG 280-14519-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Field Blank Data Qualification Summary - SDG 280-14519-1

No Sample Data Qualified in this SDG

LDC #: 25667F5
 SDG #: 280-14519-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level IV

Date: 6/6/11
 Page: 1 of 1
 Reviewer: JVL
 2nd Reviewer: [Signature]

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/12/11
II.	Initial calibration	A	2 RSD < 20% ✓
III.	Calibration verification/ICV	SW	CV/1CV < 20%
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client spec
VII.	Laboratory control samples	A	LCS / D
VIII.	Target compound identification	A	
IX.	Compound Quantitation and CRQLs	SW	
X.	System Performance	A	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

1	HAR-27_041211_01	11	11B 280-62178/A-A	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Method: GC HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	/			
Cooler temperature criteria was met.	/			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	/			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) < 20%?	/			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?	/			
Did the initial calibration meet the curve fit acceptance criteria?	/			
Were the RT windows properly established?	/			
IV. Continuing calibration				
What type of continuing calibration calculation was performed? <u> </u> %D or <u> </u> %R	/			
Was a continuing calibration analyzed daily?	/			
Were all percent differences (%D) < 20%.0 or percent recoveries 80-120%?		/		
Were all the retention times within the acceptance windows?	/			
V. Blanks				
Was a method blank associated with every sample in this SDG?	/			
Was a method blank analyzed for each matrix and concentration?	/			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		/		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	/			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			/	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			/	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		/		
Was a MS/MSD analyzed every 20 samples of each matrix?		/		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			/	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	/			
Was an LCS analyzed per extraction batch?	/			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	/			
IX. Regional Quality Assurance and Quality Control				

Validation Area	Yes	No	NA	Findings/Comments
Were performance evaluation (PE) samples performed?		<input checked="" type="checkbox"/>		
Were the performance evaluation (PE) samples within the acceptance limits?			<input checked="" type="checkbox"/>	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	<input checked="" type="checkbox"/>			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	<input checked="" type="checkbox"/>			
XII. System performance				
System performance was found to be acceptable.	<input checked="" type="checkbox"/>			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	<input checked="" type="checkbox"/>			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		<input checked="" type="checkbox"/>		
Target compounds were detected in the field duplicates.			<input checked="" type="checkbox"/>	
XV. Field blanks				
Field blanks were identified in this SDG.		<input checked="" type="checkbox"/>		
Target compounds were detected in the field blanks.			<input checked="" type="checkbox"/>	

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The calibration factors (CF), average CF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

CF = A/C
 average CF = sum of the CF/number of standards
 %RSD = $100 * (S/X)$

Where:
 A = Area of compound
 C = Concentration of compound
 S = Standard deviation of calibration factors
 X = Mean of calibration factors

#	Standard ID	Calibration Date	Compound	Reported RRF (100 std)	Recalculated RRF (100 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	4/22/2011	Dinoseb (DB-35MS)	591.63	592.17	558.27	558.27	4.8	4.8
	GCS M		Dinoseb (DB-XLB)	565.40	565.91	534.59	534.59	8.4	8.4

Conc	DB-35MS	DB-XLB	DB35MS	DB-XLB
236	139752	133555	18.9	18.8
			575.43	600.99
			566.52	576.24
			591.63	565.40
			520.96	492.63
			527.62	496.43
			547.05	502.13
			578.68	508.34
			S = 558.27	S = 534.59
			X = 27	X = 45

Dinoseb

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC # 25667FS

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: [Signature]
2nd Reviewer: [Signature]

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration percent difference (%D) values were recalculated for the compounds identified below using the following calculation:

Where:
Percent difference (%D) = $100 * (N - C) / N$
N = Initial Calibration Factor or Nominal Amount
C = Calibration Factor from Continuing Calibration Standard or Calculated Amount

#	Standard ID	Calibration Date	Compound	Average RRF	Reported RRF (CC)	Recalculated RRF (CC)	Reported % D	Recalculated % D
1	027B2701	4/23/2011	Disoseb (DB 35MS)	558.27	851.40	851.45	0.1	52.5
			Dinoseb (DB XLB)	534.59	779.50	779.54	45.8	45.8

CCV1

Compound	Response	Conc
Disoseb (DB 35MS)	402251	472.428
Dinoseb (DB XLB)	368276	472.428

LDC #: 20667 FS

VALIDATION FINDINGS WORKSHEET

Surrogate Results Verification

Page: 1 of 1
Reviewer: JVG
2nd reviewer: [Signature]

METHOD: GC HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: $SF/SS * 100$
Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery		Percent Difference
				Reported	Recalculated	
BCPAA	PB 35 MS	SD	568.11	114	114	0
	PB XLP	8	567.76	114	114	0

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery		Percent Difference
				Reported	Recalculated	

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery		Percent Difference
				Reported	Recalculated	

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: JVG

2nd Reviewer: [Signature]

METHOD: GC HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = $100 * (SSC - SC) / SA$ Where SSC = Spiked sample concentration SC = Sample concentration

RPD = $\frac{((SSCLCS - SSCLCSD) * 2) / (SSCLCS + SSCLCSD)}{100}$ SA = Spike added LCS = Laboratory Control Sample LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples: LCS / D - 280 - 62178 / 2,2-A

Compound	Spike Added (<u>45 / 1</u>)		Spike Sample Concentration (<u>45 / 1</u>)		LCS		LCSD		LCS		LCSD		LCS/LCSD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)														
Diesel (8015)														
Benzene (8021B)														
Methane (RSK-175)														
2,4-D (8151)	<u>4.60</u>	<u>4.60</u>	<u>6.08</u>	<u>5.98</u>	<u>132</u>	<u>132</u>	<u>119</u>	<u>119</u>			<u>70</u>	<u>10</u>		
Dinoseb (8151)														
Naphthalene (8310)														
Anthracene (8310)														
HMX (8330)														
2,4,6-Trinitrotoluene (8330)														

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 12, 2011

LDC Report Date: June 16, 2011

Matrix: Water

Parameters: Cyanide

Validation Level: Level IV

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14519-1

Sample Identification

HAR-27_041211_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 9012A for Cyanide.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

All criteria for the initial calibration of each method were met.

III. Calibration Verification

Calibration verification frequency and analysis criteria were met.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No cyanide was found in the initial, continuing and preparation blanks.

No field blanks were identified in this SDG.

V. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VI. Duplicates

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All sample result verifications were acceptable.

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-14519-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-14519-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-14519-1	HAR-27_041211_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-14519-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-14519-1

No Sample Data Qualified in this SDG

LDC #: 25667F6
 SDG #: 280-14519-1
 Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level IV

Date: 6/18/11
 Page: 1 of 1
 Reviewer: CR
 2nd Reviewer: [Signature]

METHOD: (Analyte) Cyanide (EPA SW846 Method 9012A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/12/11
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	A	
IV	Matrix Spike/Matrix Spike Duplicates	N	Client specified
V	Duplicates	N	J
VI.	Laboratory control samples	A	LCSD
VII.	Sample result verification	A	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: *water*

1 ¹¹	HAR-27_041211_01	11	RBW	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Method: Inorganics (EPA Method See cover)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	/			
Cooler temperature criteria was met.	/			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	/			
Were the proper number of standards used?	/			
Were all initial calibration correlation coefficients > 0.995?	/			
Were all initial and continuing calibration verification %Rs within the 90-110% QC limits?	/			
Were titrant checks performed as required? (Level IV only)			/	
Were balance checks performed as required? (Level IV only)			/	
III. Blanks				
Was a method blank associated with every sample in this SDG?	/			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		/		
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.		/		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.			/	
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of ≤ CRDL (≤ 2X CRDL for soil) was used for samples that were ≤ 5X the CRDL, including when only one of the duplicate sample values were < 5X the CRDL.			/	
V. Laboratory control samples				
Was an LCS analyzed for this SDG?	/			
Was an LCS analyzed per extraction batch?	/			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% (85-115% for Method 300.0) QC limits?	/			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		/		
Were the performance evaluation (PE) samples within the acceptance limits?			/	

Validation Area	Yes	No	NA	Findings/Comments
<i>VII. Sample Result Verification</i>				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were detection limits < RL?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>VIII. Overall assessment of data</i>				
Overall assessment of data was found to be acceptable.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>IX. Field duplicates</i>				
Field duplicate pairs were identified in this SDG.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Target analytes were detected in the field duplicates.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<i>X. Field blanks</i>				
Field blanks were identified in this SDG.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Target analytes were detected in the field blanks.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

LDC #: 256676

Validation Findings Worksheet
Initial and Continuing Calibration Calculation Verification

Page: 1 of 1

Reviewer: CR

2nd Reviewer: [Signature]

Method: Inorganics, Method See Cover

The correlation coefficient (r) for the calibration of CN was recalculated. Calibration date: 4/14/11

An initial or continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

$$\%R = \frac{\text{Found} \times 100}{\text{True}}$$

Where,

Found = concentration of each analyte measured in the analysis of the ICV or CCV solution

True

= concentration of each analyte in the ICV or CCV source

Type of analysis	Analyte	Standard	Conc. (mg/l)	Area	Recalculated		Reported		Acceptable (Y/N)
					r	r ²	r	r ²	
Initial calibration	CN	s1	0	906	0.999991	0.999991	-	-	Y
		s2	10	6561					
		s3	20	11916					
		s4	50	26742					
		s5	100	52397					
		s6	200	102450					
		s7	400	204197					
Calibration verification		CCV	200	204.8		102	-	-	
Calibration verification		↓	↓	210.9		105	-	-	↓
Calibration verification									

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 286778

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Page: 1 of 1
Reviewer: OR
2nd Reviewer: ae

METHOD: Inorganics, Method SEE COVER

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$

Where, Found = concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
 True = concentration of each analyte in the source.

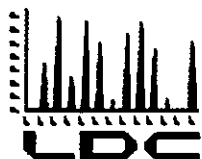
A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$$RPD = \frac{|S-D|}{(S+D)/2} \times 100$$

Where, S = Original sample concentration
 D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	Found / S (units/mg/L)	True / D (units/mg/L)	Recalculated		Acceptable (Y/N)
					%R / RPD	%R / RPD	
LC5	Laboratory control sample	CN	0.1	0.1	100	100	Y
N	Matrix spike sample	(SSR-SR)					
N	Duplicate sample						

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

June 21, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Level IV Data Validation

Dear Mr. Reiners,

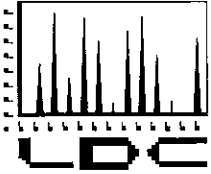
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on June 15, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25667:

<u>SDG #</u>	<u>Fraction</u>
280-14379-1	Semivolatiles, Cyanide
280-14432-1, 280-14967-1	Herbicides
280-14437-1/H1D120409, 280-14490-1/H1D130480, 280-14530-1/H1D140421, 280-14974-1/H1D260440, 280-15013-1/H1D270520, 280-15128-1/H1D300401	Dioxins/Dibenzofurans
280-14484-1/A1D120533	Chlorinated Pesticides, Herbicides, Wet Chemistry
280-14519-1, 280-14865-1	Herbicides, Cyanide
280-14655-1	Volatiles, Herbicides
280-14702-1	Semivolatiles, Herbicides
280-15011-1	Volatiles
280-15069-1, 280-15184-1	Cyanide
280-15126-1	Semivolatiles, Wet Chemistry

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010



- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV LDC #25667 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		SVOA (8270C)		Pest. (8081A)		Herbs (8151A)		Dioxins (8290)		CN- (9012A)		S= (4500 -S2 D)		W S		W S		W S		W S		W S		W S		W S					
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S		
Matrix: Water/Soil																																			
A	280-14379-1	06/15/11	06/22/11	-	-	3	0	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
B	280-14432-1	06/15/11	06/22/11	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
C	280-14437-1/ H1D120409	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
D	280-14484-1/ A1D120533	06/15/11	06/22/11	-	-	-	-	1	0	1	0	-	-	2	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
E	280-14490-1/ H1D130480	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
F	280-14519-1	06/15/11	06/22/11	-	-	-	-	-	-	1	0	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
G	280-14530-1/ H1D140421	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
H	280-14655-1	06/15/11	06/22/11	1	0	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
I	280-14702-1	06/15/11	06/22/11	-	-	1	0	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
J	280-14865-1	06/15/11	06/22/11	-	-	-	-	-	-	2	0	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K	280-14967-1	06/15/11	06/22/11	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L	280-14974-1/ H1D260440	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M	280-15011-1	06/15/11	06/22/11	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N	280-15013-1/ H1D270520	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O	280-15069-1	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P	280-15126-1	06/15/11	06/22/11	-	-	1	0	-	-	-	-	-	-	3	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Q	280-15128-1 /H1D300401	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R	280-15184-1	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	T/PG			2	0	5	0	1	0	9	0	8	0	10	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MSMSD, and DUPs

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 12, 2011

LDC Report Date: June 17, 2011

Matrix: Water

Parameters: Dioxins/Dibenzofurans

Validation Level: EPA Level IV

Laboratory: Test America Inc.

Sample Delivery Group (SDG): 280-14530-1/H1D140421

Sample Identification

HAR-07_041211_01

HAR-07_041211_36

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance was checked at the required daily frequency.

Retention time windows were established for all homologues.

The chromatographic resolution between 2,3,7,8-TCDD and the peaks representing any other unlabeled TCDD isomers was resolved with a valley of less than or equal to 25%.

The exact mass of 380.9760 of PFK was verified.

The static resolving power was at least 10,000 (10% valley definition).

III. Initial Calibration

A five point initial calibration was performed as required by the method.

Percent relative standard deviations (%RSD) were less than or equal to 20.0% for unlabeled compounds and less than or equal to 30.0% for labeled compounds.

The ion abundance ratios for all PCDDs and PCDFs were within validation criteria.

The minimum S/N ratio for each target compound was greater than or equal to 2.5 and greater than or equal to 10 for each recovery and internal standard compound.

IV. Routine Calibration (Continuing)

Routine calibration was performed at the required frequencies.

All of the routine calibration percent differences (%D) between the initial calibration RRF and the routine calibration RRF were less than or equal to 20.0% for unlabeled compounds and less than or equal to 30.0% for labeled compounds.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for unlabeled compounds and less than or equal to 30.0% for labeled compounds.

The ion abundance ratios for all PCDDs and PCDFs were within validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
1108103-MB	4/18/11	OCDD	36 pg/L	All samples in SDG 280-14530-1/H1D140421

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
HAR-07_041211_01	OCDD	11 pg/L	11U pg/L
HAR-07_041211_36	OCDD	5.5 pg/L	5.5U pg/L

No field blanks were identified in this SDG.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. The percent recoveries (%R) were within the QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

All internal standard recoveries were within QC limits.

X. Target Compound Identifications

All target compound identifications were within validation criteria.

XI. Compound Quantitation and CRQLs

XI. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14530-1/H1D140421	All compounds reported below the RL.	J (all detects)	A

XII. System Performance

The system performance was acceptable.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

Samples HAR-07_041211_01 and HAR-07_041211_36 were identified as field duplicates. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (p/L)		RPD (Limits)	Flag	A or P
	HAR-07_041211_01	HAR-07_041211_36			
OCDD	11	5.5	67 (≤35)	NQ	-
OCDF	6.8	6.2	9 (≤35)	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-14530-1/H1D140421**

SDG	Sample	Compound	Flag	A or P	Reason
280-14530-1/H1D140421	HAR-07_041211_01 HAR-07_041211_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-14530-1/H1D140421**

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-14530-1/H1D140421	HAR-07_041211_01	OCDD	11U pg/L	A	B
280-14530-1/H1D140421	HAR-07_041211_36	OCDD	5.5U pg/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-14530-1/H1D140421**

No Sample Data Qualified in this SDG

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/12/11
II.	HRGC/HRMS Instrument performance check	A	
III.	Initial calibration	A	% RSD ≤ 20% unlabeled ≤ 30% labeled
IV.	Routine calibration/ICV	A	cal/100 = ↓ ↓
V.	Blanks	SW	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	LCS
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	A	
X.	Target compound identifications	A	
XI.	Compound quantitation and CRQLs	A	
XII.	System performance	A	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	SW	d = 1.2
XV.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: water

1	HAR-07_041211_01	11	11 08103-MB	21	31
2	HAR-07_041211_36	12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

Method: Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	/			
Cooler temperature criteria was met.	/			
II. GC/MS Instrument performance check				
Was PFK exact mass 380.9760 verified?	/			
Were the retention time windows established for all homologues?	/			
Was the chromatographic resolution between 2,3,7,8-TCDD and peaks representing any other unlabeled TCDD isomers < 25% ?	/			
Is the static resolving power at least 10,000 (10% valley definition)?	/			
Was the mass resolution adequately check with PFK?	/			
Was the presence of 1,2,8,9-TCDD and 1,3,4,6,8-PeCDF verified?	/			
III. Initial calibration				
Was the initial calibration performed at 5 concentration levels?	/			
Were all percent relative standard deviations (%RSD) ≤ 20% for unlabeled standards and < 30% for labeled standards?	/			
Did all calibration standards meet the Ion Abundance Ratio criteria?	/			
Was the signal to noise ratio for each target compound ≥ 2.5 and for each recovery and internal standard > 10?	/			
IV. Continuing calibration				
Was a routine calibration performed at the beginning and end of each 12 hour period?	/			
Were all percent differences (%D) ≤ 20% for unlabeled standards and ≤ 30% for labeled standards?	/			
Did all routine calibration standards meet the Ion Abundance Ratio criteria?	/			
V. Blanks				
Was a method blank associated with every sample in this SDG?	/			
Was a method blank performed for each matrix and concentration?	/			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet?	/			
VI. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		/		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			/	
VII. Laboratory control samples				
Was an LCS analyzed for this SDG?	/			
Was an LCS analyzed per extraction batch?	/			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	/			

Validation Area	Yes	No	NA	Findings/Comments
VIII: Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		/		
Were the performance evaluation (PE) samples within the acceptance limits?			/	
IX: Internal standards				
Were internal standard recoveries within the 40-135% criteria?	/			
Was the minimum S/N ratio of all internal standard peaks > 10?	/			
X: Target compound identification				
For 2,3,7,8 substituted congeners with associated labeled standards, were the retention times of the two quantitation peaks within -1 to 3 sec. of the RT of the labeled standard?	/			
For 2,3,7,8 substituted congeners without associated labeled standards, were the relative retention times of the two quantitation peaks within 0.005 time units of the RRT measured in the routine calibration?	/			
For non-2,3,7,8 substituted congeners, were the retention times of the two quantitation peaks within RT established in the performance check solution?	/			
Did compound spectra contain all characteristic ions listed in the table attached?	/			
Was the Ion Abundance Ratio for the two quantitation ions within criteria?	/			
Was the signal to noise ratio for each target compound and labeled standard \geq 2.5?	/			
Does the maximum intensity of each specified characteristic ion coincide within \pm 2 seconds (includes labeled standards)?	/			
For PCDF identification, was any signal ($S/N \geq 2.5$, at \pm seconds RT) detected in the corresponding PCDF channel?	/			
Was an acceptable lock mass recorded and monitored?	/			
XI: Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	/			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	/			
XII: System performance				
System performance was found to be acceptable.	/			
XIII: Overall assessment of data				
Overall assessment of data was found to be acceptable.	/			
XIV: Field duplicates				
Field duplicate pairs were identified in this SDG.	/			
Target compounds were detected in the field duplicates.	/			
XV: Field blanks				
Field blanks were identified in this SDG.		/		
Target compounds were detected in the field blanks.			/	

VALIDATION FINDINGS WORKSHEET

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

A. 2,3,7,8-TCDD	F. 1,2,3,4,6,7,8-HpCDD	K. 1,2,3,4,7,8-HxCDF	P. 1,2,3,4,7,8,9-HpCDF	U. Total HpCDD
B. 1,2,3,7,8-PeCDD	G. OCDD	L. 1,2,3,6,7,8-HxCDF	Q. OCDF	V. Total TCDF
C. 1,2,3,4,7,8-HxCDD	H. 2,3,7,8-TCDF	M. 2,3,4,6,7,8-HxCDF	R. Total TCDD	W. Total PeCDF
D. 1,2,3,6,7,8-HxCDD	I. 1,2,3,7,8-PeCDF	N. 1,2,3,7,8,9-HxCDF	S. Total PeCDD	X. Total HxCDF
E. 1,2,3,7,8,9-HxCDD	J. 2,3,4,7,8-PeCDF	O. 1,2,3,4,6,7,8-HpCDF	T. Total HxCDD	Y. Total HpCDF

Notes: _____

25667 G21

LDC#: 25382F21

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: DL
2nd Reviewer: [Signature]

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (p/L)		%RPD (≤ 35)	Qualifications (Parent Only)
	7	8		
G	11	5.5	67	NQ(<5XRL)
Q	6.8	6.2	9	

V:\FIELD DUPLICATES\25382F21.wpd

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$$RRF = (A_x)(C_{is}) / (A_{is})(C_x)$$

average RRF = sum of the RRFs/number of standards

$$\%RSD = 100 * (S/X)$$

A_x = Area of Compound

C_x = Concentration of compound,

S = Standard deviation of the RRFs,

A_{is} = Area of associated internal standard

C_{is} = Concentration of internal standard

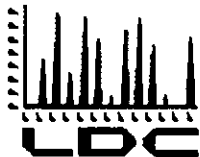
X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (0.5/2.5/5 std)	Recalculated RRF (0.5/2.5/5 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	6/30/2010	2,3,7,8-TCDF (13C-2,3,7,8-TCDF)	0.944	0.944	0.986	0.986	5.3	5.3
	M2A		2,3,7,8-TCDD (13C-2,3,7,8-TCDD)	0.897	0.897	1.021	1.021	9.2	9.3
			1,2,3,6,7,8-HxCDD (13C-1,2,3,6,7,8-HxCDD)	0.939	0.939	0.943	0.943	2.9	2.9
			1,2,3,4,6,7,8-HpCDD (13C-1,2,4,6,7,8-HpCDD)	1.096	1.096	1.037	1.037	4.2	4.2
			OCDF (13C-OCDD)	1.238	1.238	1.167	1.167	4.4	4.4

Cis/Cx	Area opd	Area IS
100/.5	13459	2852888
100/.5	9289	2070083
100/2.5	40427	1721480
100/2.5	45039	1643630
100/5	98181	3172926

Conc	2,3,7,8-TCDF	2,3,7,8-TCDD	1,2,3,6,7,8-HxCDD	1,2,3,4,6,7,8-HpCDD	OCDF
0.5/2.5/5	0.944	0.897	0.939	1.096	1.238
2/10/20	1.075	1.160	0.989	1.073	1.184
10/50/100	0.965	1.029	0.934	1.009	1.120
40/200/400	0.961	0.991	0.940	1.003	1.115
200/1000/2000	0.984	1.026	0.915	1.006	1.180
X =	0.986	1.021	0.943	1.037	1.167
S =	0.0519	0.0945	0.0274	0.0438	0.0510

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

June 21, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Level IV Data Validation

Dear Mr. Reiners,

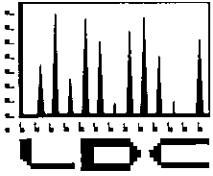
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on June 15, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25667:

<u>SDG #</u>	<u>Fraction</u>
280-14379-1	Semivolatiles, Cyanide
280-14432-1, 280-14967-1	Herbicides
280-14437-1/H1D120409, 280-14490-1/H1D130480, 280-14530-1/H1D140421, 280-14974-1/H1D260440, 280-15013-1/H1D270520, 280-15128-1/H1D300401	Dioxins/Dibenzofurans
280-14484-1/A1D120533	Chlorinated Pesticides, Herbicides, Wet Chemistry
280-14519-1, 280-14865-1	Herbicides, Cyanide
280-14655-1	Volatiles, Herbicides
280-14702-1	Semivolatiles, Herbicides
280-15011-1	Volatiles
280-15069-1, 280-15184-1	Cyanide
280-15126-1	Semivolatiles, Wet Chemistry

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010



- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 14, 2011

LDC Report Date: June 20, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level IV

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14655-1

Sample Identification

HAR-20_041411_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all compounds.

Average relative response factors (RRF) for all compounds were within method and validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
4/15/11	Acrolein Acrylonitrile	0.0162 (≥ 0.05) 0.0324 (≥ 0.05)	All samples in SDG 280-14655-1	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs) and 25.0% for all other compounds.

The percent differences (%D) of the second source calibration standard were less than or equal to 25.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within method and validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
4/15/11	Acrolein	0.0154 (≥0.05)	All samples in SDG 280-14655-1	J (all detects)	A
	Acrylonitrile	0.0296 (≥0.05)		UJ (all non-detects)	
				J (all detects)	
				UJ (all non-detects)	

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Sample TB_HAR-11_041411 was identified as a trip blank. No volatile contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14655-1	All compounds reported below the RL.	J (all detects)	A

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-14655-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14655-1	HAR-20_041411_01	Acrolein Acrylonitrile	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A	Initial calibration (RRF) (R)
280-14655-1	HAR-20_041411_01	Acrolein Acrylonitrile	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A	Continuing calibration (RRF) (R)
280-14655-1	HAR-20_041411_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-14655-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-14655-1

No Sample Data Qualified in this SDG

LDC #: 25667H1a

VALIDATION COMPLETENESS WORKSHEET

Date: 6/17/11

SDG #: 280-14655-1

Level IV

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: SW2nd Reviewer: Q

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/14/11
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	SW	2 RSD \leq 30 %
IV.	Continuing calibration/ICV	SW	CV/ICV \leq 25 %
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS \leq
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	
XII.	Compound quantitation/CRQLs	A	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	A	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = TB_HAR-11-041411 (same SDG)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinstate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	HAR-20_041411_01	11	MB 280-62612/12	21		31	
2		12	MB 280-63183/5	22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Method: Volatiles (EPA SW 846 Method 8260B)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	/			
Cooler temperature criteria was met.	/			
II. GC/MS Instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	/			
Were all samples analyzed within the 12 hour clock criteria?	/			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	/			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	/			
Was a curve fit used for evaluation?	/			
Did the initial calibration meet the curve fit acceptance criteria of > 0.990?	/			
Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) > 0.05?		/		
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	/			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	/			
Were all percent differences (%D) < 25% and relative response factors (RRF) > 0.05?		/		
V. Blanks				
Was a method blank associated with every sample in this SDG?	/			
Was a method blank analyzed at least once every 12 hours for each matrix and concentration?	/			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		/		
VI. Surrogate spikes				
Were all surrogate %R within QC limits?	/			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			/	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	/			
Was a MS/MSD analyzed every 20 samples of each matrix?	/			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	/			
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	/			

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per analytical batch?	/			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	/			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		/		
Were the performance evaluation (PE) samples within the acceptance limits?			/	
X. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	/			
Were retention times within + 30 seconds of the associated calibration standard?	/			
XI. Target compound identification				
Were relative retention times (RRT's) within + 0.06 RRT units of the standard?	/			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	/			
Were chromatogram peaks verified and accounted for?	/			
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	/			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	/			
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			/	
Were relative intensities of the major ions within \pm 20% between the sample and the reference spectra?			/	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?		/		
XIV. System performance				
System performance was found to be acceptable.	/			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	/			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.		/		
Target compounds were detected in the field duplicates.			/	
XVII. Field blanks				
Field blanks were identified in this SDG.	/			
Target compounds were detected in the field blanks.		/		

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC. 1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl chloride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethane	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QOOQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is}) / (A_{is})(C_x)$
 average RRF = sum of the RRFs/number of standards
 $\%RSD = 100 * (S/X)$
 A_x = Area of Compound
 C_x = Concentration of compound
 S = Standard deviation of the RRFs
 A_{is} = Area of associated internal standard
 C_{is} = Concentration of internal standard
 X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (RRF 10 std)	Recalculated RRF (RRF 10 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	4/15/2011	Dichlorodifluoromethane (IS1)	0.3818	0.3818	0.3539	0.3540	10.9	10.90
	GC MSV MS1		Ethylbenzene (IS2)	2.4776	2.4776	2.5336	2.5336	9.1	9.1
			1,2-DCB (IS3)	1.6798	1.6798	1.7183	1.7183	6.7	6.7

Cis/Cx	Ax	Ais
12.5/10	700787	2294542
12.5/10	1032887	521109
12.5/10	920139	684702

Conc	DCFM	Ethylbenzene	1,2-DCB
0.3			
1	0.3143	2.6030	1.6795
2	0.3257	2.7276	1.8425
5	0.4159	2.7912	1.8729
10	0.3818	2.4776	1.6798
30	0.3534	2.4561	1.6614
60	0.3326	2.1459	1.5736
X =	0.3540	2.5336	1.7183
S =	0.0386	0.2316	0.1153

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
 Continuing Calibration Calculation Verification

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

Where:
 $\% \text{ Difference} = 100 * (\text{ave. RRF} - \text{RRF}) / \text{ave. RRF}$
 $\text{RRF} = (\text{Ax}) / (\text{Cis}) / (\text{Ais}) / (\text{Cx})$
 ave. RRF = initial calibration average RRF
 RRF = continuing calibration RRF
 Ax = Area of compound
 Cis = Concentration of internal standard
 Ais = Area of associated internal standard
 Cx = Concentration of compound

#	Standard ID	Calibration Date	Compound (IS)	Average RRF (Initial)	Reported RRF (CCV)	Recalculated RRF (CCV)	Reported % D	Recalculated %D
1	ms3485	4/20/2011	Dichlorodifluoromethane (IS1)	0.354	15.800	0.431	21.9	21.9
	GC MSV MS1		Ethylbenzene (IS2)	2.534	2.452	2.452	3.2	3.2
			1,2-DCB (IS3)	1.718	1.624	1.624	5.5	5.5

CCV1

Cis/Cx	Compound (IS)	Ax	Ais
12.5/10	Dichlorodifluoromethane (IS1)	764616	2215784
12.5/10	Ethylbenzene (IS2)	1070222	545477
12.5/10	1,2-DCB (IS3)	964388	742442

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: $SF/SS * 100$

Where: SF = Surrogate Found
 SS = Surrogate Spiked

Sample ID: #1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane	11.25	10.84	96	96	0
1,2-Dichloroethane-d4		10.81	96	96	
Toluene-d8		10.56	94	94	
Bromofluorobenzene		11.04	98	98	

Sample ID: _____

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID: _____

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID: _____

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID: _____

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 14, 2011

LDC Report Date: June 20, 2011

Matrix: Water

Parameters: Herbicides

Validation Level: Level IV

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14655-1

Sample Identification

HAR-09_041411_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8151A for Herbicides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration of compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Retention time windows were evaluated and considered technically acceptable.

III. Calibration Verification

Calibration verification was performed at the required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No herbicide contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/(Matrix Spike) Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D280-62536/2,3-A (All samples in SDG 280-14655-1)	2,4,5-T 2,4-D 2,4,5-TP (silvex)	- - -	- - -	34 (≤30) 39 (≤30) 32 (≤30)	J (all detects) UJ (all non-detects)	P

VIII. Target Compound Identification

All target compound identifications were within validation criteria.

IX. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14655-1	All compounds reported below the RL.	J (all detects)	A

X. System Performance

The system performance was acceptable.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Data Qualification Summary - SDG 280-14655-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14655-1	HAR-09_041411_01	2,4,5-T 2,4-D 2,4,5-TP (silvex)	J (all detects) UJ (all non-detects)	P	Laboratory control samples (RPD) (E)
280-14655-1	HAR-09_041411_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Laboratory Blank Data Qualification Summary - SDG 280-14655-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Field Blank Data Qualification Summary - SDG 280-14655-1**

No Sample Data Qualified in this SDG

LDC #: 25667H5
 SDG #: 280-14655-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level IV

Date: 6/16/11
 Page: 1 of 1
 Reviewer: JVG
 2nd Reviewer: [Signature]

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/14/11
II.	Initial calibration	A	$\sigma_{\%} RSD \leq 20\%$ <i>rv</i>
III.	Calibration verification/ICV	A	$CV/ICV \leq 20\%$
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client spec
VII.	Laboratory control samples	SW	ICS ID
VIII.	Target compound identification	A	
IX.	Compound Quantitation and CRQLs	A	
X.	System Performance	A	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: *water*

1	HAR-09_041411_01	11	<i>MB 280-62536/1-A</i>	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Method: GC HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	/			
Cooler temperature criteria was met.	/			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	/			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) < 20%?	/			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?	/	<u>W</u>		
Did the initial calibration meet the curve fit acceptance criteria?	/			
Were the RT windows properly established?	/			
IV. Continuing calibration				
What type of continuing calibration calculation was performed? <u>%D</u> or <u>%R</u>	/			
Was a continuing calibration analyzed daily?	/			
Were all percent differences (%D) < 20%.0 or percent recoveries 80-120%?	/			
Were all the retention times within the acceptance windows?	/			
V. Blanks				
Was a method blank associated with every sample in this SDG?	/			
Was a method blank analyzed for each matrix and concentration?	/			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		/		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	/			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			/	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			/	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		/		
Was a MS/MSD analyzed every 20 samples of each matrix?			/	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			/	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	/			
Was an LCS analyzed per extraction batch?	/			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	<u>NA</u>	/		
IX. Regional Quality Assurance and Quality Control				

Validation Area	Yes	No	NA	Findings/Comments
Were performance evaluation (PE) samples performed?		/		
Were the performance evaluation (PE) samples within the acceptance limits?			/	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	/			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	/			
XII. System performance				
System performance was found to be acceptable.	/			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	/			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		/		
Target compounds were detected in the field duplicates.			/	
XV. Field blanks				
Field blanks were identified in this SDG.		/		
Target compounds were detected in the field blanks.			/	

VALIDATION FINDINGS WORKSHEET

METHOD: GC HPLC

8310	8330	8151	8141	8141 (Cont'd)	8021B
A. Acenaphthene	A. HMX	A. 2,4-D	A. Dichlorvos	V. Fensulfothion	V. Benzene
B. Acenaphthylene	B. RDX	B. 2,4-DB	B. Mevinphos	W. Bolstar	CC. Toluene
C. Anthracene	C. 1,3,5-Trinitrobenzene	C. 2,4,5-T	C. Demeton-O	X. EPN	EE. Ethyl Benzene
D. Benzo(a)anthracene	D. 1,3-Dinitrobenzene	D. 2,4,5-TP	D. Demeton-S	Y. Azinphos-methyl	SSS. O-Xylene
E. Benzo(a)pyrene	E. Tetryl	E. Dinoseb	E. Ethoprop	Z. Coumaphos	RRR. MP-Xylene
F. Benzo(b)fluoranthene	F. Nitrobenzene	F. Dichlorprop	F. Naled	AA. Parathion	GG. Total Xylene
G. Benzo(g,h,i)perylene	G. 2,4,6-Trinitrotoluene	G. Dicamba	G. Sulfotep	BB. Trichloronate	
H. Benzo(k)fluoranthene	H. 4-Amino-2,6-dinitrotoluene	H. Dalapon	H. Phorate	CC. Trichlorinate	
I. Chrysene	I. 2-Amino-4,6-dinitrotoluene	I. MCPP	I. Dimethoate	DD. Trifluralin	
J. Dibenz(a,h)anthracene	J. 2,4-Dinitrotoluene	J. MCPA	J. Diazinon	EE. Def	
K. Fluoranthene	K. 2,6-Dinitrotoluene	K. Pentachlorophenol	K. Disulfoton	FF. Prowl	
L. Fluorene	L. 2-Nitrotoluene	L. 2,4,5-TP (silvex)	L. Parathion-methyl	GG. Ethion	
M. Indeno(1,2,3-cd)pyrene	M. 3-Nitrotoluene	M. Silvex	M. Ronnel	HH. Famphur	
N. Naphthalene	N. 4-Nitrotoluene		N. Malathion	II. Phosmet	
O. Phenanthrene	O. Nitroglycerin		O. Chlorpyrifos	JJ. Tetrachlorvinphos	
P. Pyrene	P.		P. Fenthion	KK. Demeton (total)	
Q.	Q		Q. Parathion-ethyl		
R.			R. Trichlorate		
S.			S. Merphos		
			T. Stirofos		
			U. Tokuthion		

Notes:

LDC #: 15666745

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: _____

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The calibration factors (CF), average CF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

CF = A/C
 average CF = sum of the CF/number of standards
 %RSD = 100 * (S/X)
 Where:
 A = Area of compound
 C = Concentration of compound
 S = Standard deviation of calibration factors
 X = Mean of calibration factors

#	Standard ID	Calibration Date	Compound	Reported RRF (100 std)	Recalculated RRF (100 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	4/22/2011	Dinoseb (DB-35MS)	591.63	592.17	558.27	558.27	4.8	4.8
	GCS M		Dinoseb (DB-XLB)	565.40	565.91	534.59	534.59	8.4	8.4

Dinoseb

DB35MS	
18.9	575.43
47.2	566.52
236	591.63
472	520.96
709	527.62
945	547.05
1890	578.68
S =	558.27
X =	27

DB-XLB	
18.8	600.99
47.0	576.24
235.0	565.40
470.0	492.63
705.0	496.43
940.0	502.13
1881.0	508.34
S =	534.59
X =	45

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC # 2566745

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: [Signature]
2nd Reviewer: [Signature]

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration percent difference (%D) values were recalculated for the compounds identified below using the following calculation:

Where:
Percent difference (%D) = $100 * (N - C) / N$
N = Initial Calibration Factor or Nominal Amount
C = Calibration Factor from Continuing Calibration Standard or Calculated Amount

#	Standard ID	Calibration Date	Compound	Average RRF	Reported RRF (CC)	Recalculated RRF (CC)	Reported % D	Recalculated % D
1	046B4601	4/23/2011	Disoseb (DB 35MS)	558.27	479.90	479.91	0.1	14.0
			Dinoseb (DB XLB)	534.59	524.30	524.32	1.9	1.9

CCV1

Compound	Response	Conc
Disoseb (DB 35MS)	226721	472.428
Dinoseb (DB XLB)	247703	472

LDC #: 25617 HS

VALIDATION FINDINGS WORKSHEET

Surrogate Results Verification

Page: 1 of 1
Reviewer: JVG
2nd reviewer: [Signature]

METHOD: GC HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100
Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: # /

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery		Percent Difference
				Reported	Recalculated	
BCPAA	DB KMSJ	SSD	445.07	89	89	0
	DB KLB	↓	430.33	86	86	↓

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery		Percent Difference
				Reported	Recalculated	

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery		Percent Difference
				Reported	Recalculated	

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

METHOD: GC HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = $100 * (SSC - SC) / SA$

Where SSC = Spiked sample concentration

SC = Sample concentration

SA = Spike added

LCS = Laboratory Control Sample

LCS/D = Laboratory Control Sample duplicate

RPD = $\frac{((SSCLCS - SSCLCSD) * 2) / (SSCLCS + SSCLCSD) * 100}{}$

LCS/LCSD samples: 165/D 280 - 62536 / 2, 3 - A

Compound	Spike Added (ug/L)		Spike Sample Concentration (ug/L)		LCS		LCS/D	
	LCS	LCS/D	LCS	LCS/D	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)								
Diesel (8015)								
Benzene (8021B)								
Methane (RSK-175)								
2,4-D (8151)	4.60	4.60	3.62	5.36	79	79	117	39
Dinoseb (8151)								
Naphthalene (8310)								
Anthracene (8310)								
HMX (8330)								
2,4,6-Trinitrotoluene (8330)								

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

June 21, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Level IV Data Validation

Dear Mr. Reiners,

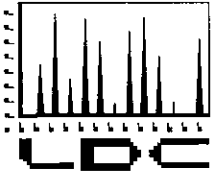
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on June 15, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25667:

<u>SDG #</u>	<u>Fraction</u>
280-14379-1	Semivolatiles, Cyanide
280-14432-1, 280-14967-1	Herbicides
280-14437-1/H1D120409, 280-14490-1/H1D130480, 280-14530-1/H1D140421, 280-14974-1/H1D260440, 280-15013-1/H1D270520, 280-15128-1/H1D300401	Dioxins/Dibenzofurans
280-14484-1/A1D120533	Chlorinated Pesticides, Herbicides, Wet Chemistry
280-14519-1, 280-14865-1	Herbicides, Cyanide
280-14655-1	Volatiles, Herbicides
280-14702-1	Semivolatiles, Herbicides
280-15011-1	Volatiles
280-15069-1, 280-15184-1	Cyanide
280-15126-1	Semivolatiles, Wet Chemistry

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010



- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV LDC #25667 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		SVOA (8270C)		Pest. (8081A)		Herbs (8151A)		Dioxins (8290)		CN- (9012A)		S= (4500 -S2 D)		W S		W S		W S		W S		W S		W S			
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
Matrix: Water/Soil																															
A	280-14379-1	06/15/11	06/22/11	-	-	3	0	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
B	280-14432-1	06/15/11	06/22/11	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
C	280-14437-1/ H1D120409	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
D	280-14484-1/ A1D120533	06/15/11	06/22/11	-	-	-	-	1	0	1	0	-	-	2	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	
E	280-14490-1/ H1D130480	06/15/11	06/22/11	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
F	280-14519-1	06/15/11	06/22/11	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
G	280-14530-1/ H1D140421	06/15/11	06/22/11	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
H	280-14655-1	06/15/11	06/22/11	1	0	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
I	280-14702-1	06/15/11	06/22/11	-	-	1	0	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
J	280-14865-1	06/15/11	06/22/11	-	-	-	-	-	-	2	0	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
K	280-14967-1	06/15/11	06/22/11	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
L	280-14974-1/ H1D260440	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
M	280-15011-1	06/15/11	06/22/11	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
N	280-15013-1/ H1D270520	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
O	280-15069-1	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
P	280-15126-1	06/15/11	06/22/11	-	-	1	0	-	-	-	-	-	-	3	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	
Q	280-15128-1 /H1D300401	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R	280-15184-1	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total				2	0	5	0	1	0	9	0	8	0	10	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 15, 2011

LDC Report Date: June 20, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level IV

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14702-1

Sample Identification

HAR-14_041511_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all compounds.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990 .

Average relative response factors (RRF) for all compounds were within method and validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs) and 25.0% for all other compounds.

The percent differences (%D) of the second source calibration standard were less than or equal to 25.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within method and validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG280-14702-1	All compounds reported below the RL.	J (all detects)	A

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-14702-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14702-1	HAR-14_041511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-14702-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-14702-1**

No Sample Data Qualified in this SDG

LDC #: 2566712a

VALIDATION COMPLETENESS WORKSHEET

Date: 6/17/11

SDG #: 280-14702-1

Level IV

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: *SM*

2nd Reviewer: *4*

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/15/11
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	% RSD ≤ 30% ✓
IV.	Continuing calibration/ICV	A	CV/ICV ≤ 25% ✓
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	
XII.	Compound quantitation/CRQLs	A	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	A	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	HAR-14_041511_01	11	<i>MB 280-62643/1-A</i>	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Method: Semivolatiles (EPA SW 846 Method 8270C)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	/			
Cooler temperature criteria was met.	/			
II. GC/MS Instrument performance check				
Were the DFTPP performance results reviewed and found to be within the specified criteria?	/			
Were all samples analyzed within the 12 hour clock criteria?	/			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	/			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	/			
Was a curve fit used for evaluation?	/			
Did the initial calibration meet the curve fit acceptance criteria of > 0.990?	/			
Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) > 0.05?	/			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	/			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	/			
Were all percent differences (%D) ≤ 25% and relative response factors (RRF) ≥ 0.05?	/			
V. Blanks				
Was a method blank associated with every sample in this SDG?	/			
Was a method blank analyzed for each matrix and concentration?	/			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		/		
VI. Surrogate spikes				
Were all surrogate %R within QC limits?	/			
If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?			/	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			/	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	/			
Was a MS/MSD analyzed every 20 samples of each matrix?	/			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	/			
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	/			

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per extraction batch?	/			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	/			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		/		
Were the performance evaluation (PE) samples within the acceptance limits?			/	
X. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	/			
Were retention times within + 30 seconds from the associated calibration standard?	/			
XI. Target compound identification				
Were relative retention times (RRT's) within + 0.06 RRT units of the standard?	/			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	/			
Were chromatogram peaks verified and accounted for?	/			
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	/			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	/			
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			/	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			/	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?		/		
XIV. System performance				
System performance was found to be acceptable.	/			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	/			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.		/		
Target compounds were detected in the field duplicates.			/	
XVII. Field blanks				
Field blanks were identified in this SDG.		/		
Target compounds were detected in the field blanks.			/	

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis(2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes: * = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: GC/MS SVOA (EPA SW 846 Method 8270C)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is}) / (A_{is})(C_x)$
 average RRF = sum of the RRFs/number of standards
 $\%RSD = 100 * (S/X)$
 A_x = Area of Compound
 C_x = Concentration of compound,
 S = Standard deviation of the RRFs,
 A_{is} = Area of associated internal standard
 C_{is} = Concentration of internal standard
 X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (50 std)	Recalculated RRF (50 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	3/28/2011	Benzyl alcohol (IS1)	0.8738	0.8738	0.8631	0.8631	3.9	3.9
	MSS Y		Naphthalene (IS2)	1.0512	1.0512	1.0272	1.0272	4.1	4.1
			Diethyl phthalate (IS3)	1.2665	1.2665	1.2121	1.2121	3.5	3.5
			Hexachlorobenzene (IS4)	0.2350	0.2350	0.2301	0.2301	2.1	2.1
			Butyl benzyl phthalate (IS5)	0.5156	0.5156	0.4835	0.4835	6.4	6.4
			Benzo(a)pyrene (IS6)	1.0268	1.0268	0.9734	0.9734	10.5	10.5

Inc IS/Cpd	Area cpd	Area IS
40/50	254697	233178
40/50	1204268	916475
40/50	866570	547368
40/50	266851	908298
40/50	663634	1029747
40/50	1227207	956180

Conc	Benzyl alc	Naphthalene	Diethyl phthal	Hexachlorob	Butyl benzyl ph	Benzo(a)py
4.00		1.0873	1.1355		0.4194	0.7607
10.00	0.8031	1.0653	1.2254	0.2219	0.4727	0.8759
20.00	0.8410	1.0381	1.2390	0.2259	0.4809	0.9772
50.00	0.8738	1.0512	1.2665	0.2350	0.5156	1.0268
80.00	0.9116	1.0282	1.2375	0.2294	0.5169	1.0360
120.00	0.8748	1.0030	1.2233	0.2319	0.4964	1.0379
160.00	0.8704	0.9781	1.2008	0.2319	0.4922	1.0335
200.00	0.8670	0.9661	1.1689	0.2345	0.4736	1.0390
X =	0.8631	1.0272	1.2121	0.2301	0.4835	0.9734
S =	0.0336	0.0422	0.0422	0.0047	0.0310	0.1025

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

METHOD: GC/MS SVOA (EPA SW 846 Method 8270C)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

Where:
 $\% \text{ Difference} = 100 * (\text{ave. RRF} - \text{RRF}) / \text{ave. RRF}$
 $\text{RRF} = (\text{Ax}) / (\text{Cis}) / (\text{Ais}) / (\text{Cx})$

Where:
 ave. RRF = initial calibration average RRF
 RRF = continuing calibration RRF
 Ax = Area of compound
 Cis = Concentration of compound
 Cx = Concentration of compound
 Ais = Area of associated internal standard
 Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (IS)	Average RRF (Initial RRF)	Reported (CC RRF)	Recalculated (CC RRF)	Reported %D	Recalculated %D
1	Y9589	04/21/11	Benzyl alcohol (IS1)	0.8631	0.8906	0.8906	3.2	3.2
			Naphthalene (IS2)	1.0272	1.0451	1.0451	1.7	1.7
			Diethyl phthalate (IS3)	1.2121	1.2444	1.2444	2.7	2.7
			Hexachlorobenzene (IS4)	0.2301	0.2287	0.2287	0.6	0.6
			Butyl benzyl phthalate (IS5)	0.4835	0.5090	0.5090	5.3	5.3
			Benzo(a)pyrene (IS6)	0.9734	1.0697	1.0697	9.9	9.9

Compound (IS)	Cis/Cx	Ax	Ais
Benzyl alcohol (IS1)	40/80	644403	361776
Naphthalene (IS2)	40/80	2968642	1420326
Diethyl phthalate (IS3)	40/80	2127991	855036
Hexachlorobenzene (IS4)	40/80	652195	1425660
Butyl benzyl phthalate (IS5)	40/80	1579400	1551354
Benzo(a)pyrene (IS6)	40/80	3003601	1403945

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270C)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: $SF/SS * 100$

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: # 1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5	150	87.5	88	88	0
2-Fluorobiphenyl	↓	72.90	73	73	0
Terphenyl-d14	↓	75.78	76	75	0
Phenol-d5	150	132.1	88	88	0
2-Fluorophenol	↓	125.1	83	83	0
2,4,6-Tribromophenol	↓	126.8	85	85	0
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: JL

2nd Reviewer: JL

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = $100 * (SC/SA)$ Where: SSC = Spike concentration
SA = Spike added

RPD = $|(LCSC - LCSDC)| * 2 / (LCSC + LCSDC)$ LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: LCS 280-626 ps / 2-A

Compound	Spike Added (µg/L)		Spike Concentration (µg/l)		LCS		LCSDC		RPD
	LCS	LCSDC	LCS	LCSDC	Reported	Recalc	Reported	Recalc	
Phenol	80.0	NA	71.7	NA	90	90			
N-Nitroso-di-n-propylamine			70		88	88			
4-Chloro-3-methylphenol			77.2		97	97			
Acenaphthene			66.3		83	83			
Penta-chloro-phenol									
Pyrene			82.5		103	103			

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Y N N/A
Y N N/A

Were all reported results recalculated and verified for all level IV samples?

Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

$$\text{Concentration} = \frac{(A_x)(L_s)(V_i)(DF)(2.0)}{(A_s)(RRF)(V_o)(V_t)(\%S)}$$

- A_x = Area of the characteristic ion (EICP) for the compound to be measured
- A_s = Area of the characteristic ion (EICP) for the specific internal standard
- L_s = Amount of internal standard added in nanograms (ng)
- V_o = Volume or weight of sample extract in milliliters (ml) or grams (g).
- V_i = Volume of extract injected in microliters (ul)
- V_t = Volume of the concentrated extract in microliters (ul)
- Df = Dilution Factor.
- %S = Percent solids, applicable to soil and solid matrices only.
- 2.0 = Factor of 2 to account for GPC cleanup

Example:

Sample I.D. # 1, Q Q Q

$$\text{Conc.} = \frac{(1811)(46)(1000)}{(354247)(0.8621)(1027.3)} \times () \times ()$$

$$= 0.23 \text{ ug/L}$$

#	Sample ID	Compound	Reported Concentration ()	Calculated Concentration ()	Qualification

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 15, 2011

LDC Report Date: June 20, 2011

Matrix: Water

Parameters: Herbicides

Validation Level: Level IV

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14702-1

Sample Identification

HAR-14_041511_01

HAR-12_041511_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8151A for Herbicides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration of compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Retention time windows were evaluated and considered technically acceptable.

III. Calibration Verification

Calibration verification was performed at the required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No herbicide contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

All target compound identifications were within validation criteria.

IX. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

The sample results for detected compounds from the two columns were within 40% relative percent difference (RPD) with the following exceptions:

Sample	Compound	RPD	Flag	A or P
HAR-14_041511_01	Dinoseb	67.6	J (all detects)	A
HAR-12_041511_01	2,4-D	45.3	J (all detects)	A

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14702-1	All compounds reported below the RL.	J (all detects)	A

X. System Performance

The system performance was acceptable.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Data Qualification Summary - SDG 280-14702-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14702-1	HAR-14_041511_01	Dinoseb	J (all detects)	A	Compound quantitation and CRQLs (RPD) (*IX)
280-14702-1	HAR-12_041511_01	2,4-D	J (all detects)	A	Compound quantitation and CRQLs (RPD) (*IX)
280-14702-1	HAR-14_041511_01 HAR-12_041511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Laboratory Blank Data Qualification Summary - SDG 280-14702-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Field Blank Data Qualification Summary - SDG 280-14702-1**

No Sample Data Qualified in this SDG

LDC #: 2566715
 SDG #: 280-14702-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level IV

Date: 6/16/11
 Page: 1 of 1
 Reviewer: JVL
 2nd Reviewer: [Signature]

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/15/11
II.	Initial calibration	A	\bar{x} RSD $\leq 20\%$ r _r
III.	Calibration verification/ICV	A	CV/100 $\leq 20\%$
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	A	
VII.	Laboratory control samples	A	LCB / B
VIII.	Target compound identification	A	
IX.	Compound Quantitation and CRQLs	SW	
X.	System Performance	A	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

water

1	HAR-14_041511_01	11	MB 280-02717 / 1-A	21		31	
2	HAR-12_041511_01	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Method: GC HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	/			
Cooler temperature criteria was met.	/			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	/			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) < 20%?	/			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?	/			
Did the initial calibration meet the curve fit acceptance criteria?	/			
Were the RT windows properly established?	/			
III. Continuing calibration				
What type of continuing calibration calculation was performed? <u>%D</u> or <u>%R</u>	/			
Was a continuing calibration analyzed daily?	/			
Were all percent differences (%D) < 20% or percent recoveries 80-120%?	/			
Were all the retention times within the acceptance windows?	/			
IV. Blanks				
Was a method blank associated with every sample in this SDG?	/			
Was a method blank analyzed for each matrix and concentration?	/			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.			/	
V. Surrogate spikes				
Were all surrogate %R within the QC limits?	/			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			/	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			/	
VI. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	/			
Was a MS/MSD analyzed every 20 samples of each matrix?	/			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	/			
VII. Laboratory control samples				
Was an LCS analyzed for this SDG?	/			
Was an LCS analyzed per extraction batch?	/			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	/			
VIII. Regional Quality Assurance and Quality Control				

Validation Area	Yes	No	NA	Findings/Comments
Were performance evaluation (PE) samples performed?		/		
Were the performance evaluation (PE) samples within the acceptance limits?			/	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	/			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	/			
XII. System performance				
System performance was found to be acceptable.	/			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	/			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		/		
Target compounds were detected in the field duplicates.			/	
XV. Field blanks				
Field blanks were identified in this SDG.		/		
Target compounds were detected in the field blanks.			/	

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The calibration factors (CF), average CF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

CF = A/C
 average CF = sum of the CF/number of standards
 %RSD = $100 * (S/X)$

Where:
 A = Area of compound
 C = Concentration of compound
 S = Standard deviation of calibration factors
 X = Mean of calibration factors

#	Standard ID	Calibration Date	Compound	Reported RRF (100 std)	Recalculated RRF (100 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	4/22/2011	Dinoseb (DB-35MS)	591.63	592.17	558.27	558.27	4.8	4.8
	GCS M		Dinoseb (DB-XLB)	565.40	565.91	534.59	534.59	8.4	8.4

Dinoseb

DB35MS	
18.9	575.43
47.2	566.52
236	591.63
472	520.96
709	527.62
945	547.05
1890	578.68
S =	558.27
X =	27

DB-XLB	
18.8	600.99
47.0	576.24
235.0	565.40
470.0	492.63
705.0	496.43
940.0	502.13
1881.0	508.34
S =	534.59
X =	45

Conc DB-35MS DB-XLB
 236 139752 133555

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration percent difference (%D) values were recalculated for the compounds identified below using the following calculation:

Where:
 $\text{Percent difference (\%D)} = 100 * (N - C) / N$
 N = Initial Calibration Factor or Nominal Amount
 C = Calibration Factor from Continuing Calibration Standard or Calculated Amount

#	Standard ID	Calibration Date	Compound	Average RRF	Reported RRF (CC)	Recalculated RRF (CC)	Reported % D	Recalculated % D
1	0876B8601	4/24/2011	Disoseb (DB 35MS)	558.27	489.96	489.96	12.3	12.2
			Dinoseb (DB XLB)	534.59	534.30	534.30	0.2	0.1

CCV1

Compound	Response	Conc
Disoseb (DB 35MS)	231263	472
Dinoseb (DB XLB)	252189	472

LDC #: 25467 IS

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: JVG
2nd reviewer: [Signature]

METHOD: GC HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: # 1

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery		Percent Difference
				Reported	Recalculated	
2,4-DCPMA	DB-35MS	500	505.349	113	113	0

Sample ID:

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery		Percent Difference
				Reported	Recalculated	

Sample ID:

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery		Percent Difference
				Reported	Recalculated	

LDC #: 2566735

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [Signature]

METHOD: GC HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = $100 * (SSC - SC) / SA$

Where SSC = Spiked sample concentration
SA = Spike added

SC = Sample concentration

RPD = $((SSCLCS - SSCLCSD) * 2) / (SSCLCS + SSCLCSD) * 100$

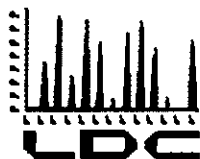
LCS = Laboratory Control Sample

LCS/D = Laboratory Control Sample duplicate

LCS/LCSD samples: LCS/D 280 - 62717 / 2, 3 - A

Compound	Spike Added (ug/L)		Spike Sample Concentration (ug/L)		LCS		LCS/D		LCS		LCS/D		LCS/LCSD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)														
Diesel (8015)														
Benzene (8021B)														
Methane (RSK-175)														
2,4-D (8151)	4.60	4.60	5.08	5.53	110	110	128	120	9	9				
Dinoseb (8151)														
Naphthalene (8310)														
Anthracene (8310)														
HMX (8330)														
2,4,6-Trinitrotoluene (8330)														

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

June 21, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Level IV Data Validation

Dear Mr. Reiners,

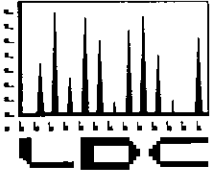
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on June 15, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25667:

<u>SDG #</u>	<u>Fraction</u>
280-14379-1	Semivolatiles, Cyanide
280-14432-1, 280-14967-1	Herbicides
280-14437-1/H1D120409, 280-14490-1/H1D130480, 280-14530-1/H1D140421, 280-14974-1/H1D260440, 280-15013-1/H1D270520, 280-15128-1/H1D300401	Dioxins/Dibenzofurans
280-14484-1/A1D120533	Chlorinated Pesticides, Herbicides, Wet Chemistry
280-14519-1, 280-14865-1	Herbicides, Cyanide
280-14655-1	Volatiles, Herbicides
280-14702-1	Semivolatiles, Herbicides
280-15011-1	Volatiles
280-15069-1, 280-15184-1	Cyanide
280-15126-1	Semivolatiles, Wet Chemistry

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010



- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV LDC #25667 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		SVOA (8270C)		Pest. (8081A)		Herbs (8151A)		Dioxins (8290)		CN- (9012A)		S= (4500 -S2 D)		W S W S		W S W S		W S W S		W S W S					
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S		
Matrix: Water/Soil																													
A	280-14379-1	06/15/11	06/22/11	-	-	3	0	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	
B	280-14432-1	06/15/11	06/22/11	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
C	280-14437-1/ H1D120409	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
D	280-14484-1/ A1D120533	06/15/11	06/22/11	-	-	-	-	1	0	1	0	-	-	2	0	1	0	-	-	-	-	-	-	-	-	-	-	-	
E	280-14490-1/ H1D130480	06/15/11	06/22/11	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
F	280-14519-1	06/15/11	06/22/11	-	-	-	-	-	-	1	0	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	
G	280-14530-1/ H1D140421	06/15/11	06/22/11	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
H	280-14655-1	06/15/11	06/22/11	1	0	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
I	280-14702-1	06/15/11	06/22/11	-	-	1	0	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
J	280-14865-1	06/15/11	06/22/11	-	-	-	-	-	2	0	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	
K	280-14967-1	06/15/11	06/22/11	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
L	280-14974-1/ H1D260440	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
M	280-15011-1	06/15/11	06/22/11	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
N	280-15013-1/ H1D270520	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
O	280-15069-1	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	
P	280-15126-1	06/15/11	06/22/11	-	-	1	0	-	-	-	-	-	-	3	0	1	0	-	-	-	-	-	-	-	-	-	-	-	
Q	280-15128-1 /H1D300401	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R	280-15184-1	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total						2	0	5	0	1	0	9	0	8	0	10	0	2	0	0	0	0	0	0	0	0	0	0	37

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: June 20, 2011

Matrix: Water

Parameters: Herbicides

Validation Level: Level IV

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14865-1

Sample Identification

HAR-01_042011_01

HAR-16_042011_36

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8151A for Herbicides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration of compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Retention time windows were evaluated and considered technically acceptable.

III. Calibration Verification

Calibration verification was performed at the required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No herbicide contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/(Matrix Spike) Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D280-61497/2,3-A (All samples in SDG 280-14865-1)	2,4-D	-	150 (15-140)	-	J (all detects)	P

VIII. Target Compound Identification

All target compound identifications were within validation criteria.

IX. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14865-1	All compounds reported below the RL.	J (all detects)	A

X. System Performance

The system performance was acceptable.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples HAR-16_042011_36 and HAR-16_042011_01 were identified as field duplicates. No herbicides were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-16_042011_01	HAR-16_042011_36			
2,4-D	4.0U	0.27	175 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Data Qualification Summary - SDG 280-14865-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14865-1	HAR-01_042011_01 HAR-16_042011_36	2,4-D	J (all detects)	P	Laboratory control samples (%R) (L)
280-14865-1	HAR-01_042011_01 HAR-16_042011_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Laboratory Blank Data Qualification Summary - SDG 280-14865-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Field Blank Data Qualification Summary - SDG 280-14865-1**

No Sample Data Qualified in this SDG

LDC #: 25667J5
 SDG #: 280-14865-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level IV

Date: 6/16/11
 Page: 1 of 1
 Reviewer: JVB
 2nd Reviewer: [Signature]

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/20/11
II	Initial calibration	A	2-RSD < 20% ✓
III.	Calibration verification/ICV	A	CV/IV < 20%
IV.	Blanks	A	
V	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	SW	LCS/D
VIII.	Target compound identification	A	
IX.	Compound Quantitation and CRQLs	A	
X.	System Performance	A	
XI.	Overall assessment of data	A	
XII.	Field duplicates	SW	D = 2, MAR-16-042011-01 (Same SDG)
XIII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

1	HAR-01_042011_01	11	MD 280-64197/-A	21		31	
2	HAR-16_042011_36	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Method: GC HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	/			
Cooler temperature criteria was met.	/			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	/			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) < 20%?	/	/		
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?			/	
Did the initial calibration meet the curve fit acceptance criteria?	/			
Were the RT windows properly established?	/			
III. Continuing calibration				
What type of continuing calibration calculation was performed? <u>%D</u> or <u>%R</u>	/			
Was a continuing calibration analyzed daily?	/			
Were all percent differences (%D) < 20% or percent recoveries 80-120%?	/			
Were all the retention times within the acceptance windows?	/			
IV. Blanks				
Was a method blank associated with every sample in this SDG?	/			
Was a method blank analyzed for each matrix and concentration?	/			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.			/	
V. Surrogate spikes				
Were all surrogate %R within the QC limits?	/			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			/	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			/	
VI. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	/	/		
Was a MS/MSD analyzed every 20 samples of each matrix?	/	/		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			/	
VII. Laboratory control samples				
Was an LCS analyzed for this SDG?	/			
Was an LCS analyzed per extraction batch?	/			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	/			
VIII. Regional Quality Assurance and Quality Control				

Validation Area	Yes	No	NA	Findings/Comments
Were performance evaluation (PE) samples performed?			/	
Were the performance evaluation (PE) samples within the acceptance limits?			/	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	/			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	/			
XII. System performance				
System performance was found to be acceptable.	/			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	/			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.	/			
Target compounds were detected in the field duplicates.	/			
XV. Field blanks				
Field blanks were identified in this SDG.			/	
Target compounds were detected in the field blanks.			/	

VALIDATION FINDINGS WORKSHEET
Field DuplicatesPage: 1 of 1
Reviewer: JVG
2nd Reviewer: **METHOD:** GC Herbicides (EPA SW 846 Method 8151A)Y/N NA Were field duplicate pairs identified in this SDG?Y/N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤ 35)	Qualifications
	HAR-16_042011_01	HAR-16_042011_36	RPD	(Parent only)
2,4-D	4.0U	0.27	175	NQ (<5xRL)

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Method: GC Herbicides (EPA SW 846 Method 8151)

Calibration Date	Instrument/Column	Compound	Standard	(Y) Conc	(X) Response	(X ²) Response
4/28/2011	GCS M DB35MS	2,4-D	1	18.8	14081	198274561
			2	47.0	31519	993447361
			3	235.1	141853	20122273609
			4	470.2	265888	70696428544
			5	705.2	389254	151518676516
			6	940.3	492640	242694169600
			7	1880.6	839177	704218037329

CF
748.7
670.4
603.4
565.5
551.9
523.9
446.2
Ave 587.2

	Regression Output	
	Calculated	Reported
Constant	b = 2.5613	b = 2.5613
Std Err of Y Est		
Coefficient of Determination (r ²)	r ² = 0.9998692	r ² = 0.9998692
Degrees of Freedom		
X Coefficient(s)	m1 =	m1 =
Std Err of Coef.	0.00146691	0.00146691
Correlation Coefficient	0.999935	

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Method: GC Herbicides (EPA SW 846 Method 8151)

Calibration Date	Instrument/Column	Compound	Standard	(Y) Conc	(X) Response	(X ²) Response
4/28/2011	GCS M DBXLB	2,4-D	1	18.8	15545	241647025
			2	47.0	30552	933424704
			3	235.1	127665	16298352225
			4	470.2	232888	54236820544
			5	705.2	336095	112959849025
			6	940.3	416248	173262397504
			7	1880.6	685731	470227004361

CF 826.6
649.8
543.1
495.3
476.6
442.7
364.6
Ave 542.7

Regression Output	Calculated		Reported	
	b =	0.3723	b =	0.3723
Std Err of Y Est				
Coefficient of Determination (r ²)	r ²	0.9998000	r ²	0.9998000
Degrees of Freedom				
X Coefficient(s)	m1 =	m2 =	m1 =	m2 =
Std Err of Coef.	0.00155153	1.7297E-09	0.00155153	1.7297E-09
Correlation Coefficient		0.999900		

LDC # 244675

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
 Reviewer: JMG
 2nd Reviewer: Q

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration percent difference (%D) values were recalculated for the compounds identified below using the following calculation:

Percent difference (%D) = $100 * (N - C) / N$

Where: N = Initial Calibration Factor or Nominal Amount

C = Calibration Factor from Continuing Calibration Standard or Calculated Amount

#	Standard ID	Calibration Date	Compound	Average RRF Conc	Reported RRF (CC)	Recalculated RRF (CC)	Reported % D	Recalculated % D
1	045B4501	4/28/2011	2,4-D (DB 35MS)	470	494	494	5.1	5.1
			2,4-D (DB XLB)	470	520	520	10.6	10.6
2								

$Y = m1X + m2(X^2) + b$
 Y= Amount X= Response

CCV1	2,4-D (DB 35MS)	Response	Response^2	m1	m2	b	m2(X^2)	m1X	Conc
		284647	8.10239E+10	0.001467	9.1532E-10	2.5613	74.1630	417.55153	494.28
		259645	6.74155E+10	0.001552	1.7297E-09	0.3723	116.6107	402.84701	519.83
Sample 1	2,4-D (DB 35MS)	21585	4.65912E+08	0.001467	9.1532E-10	2.5613	0.42646	31.56325	34.65

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

METHOD: GC HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: $SF/SS * 100$

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 1

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery		Percent Difference
				Reported	Recalculated	
DC PAA	DB 35 MS	570	563.9	113	113	9
	DB XLB	1	588.4	118	118	

Sample ID:

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery		Percent Difference
				Reported	Recalculated	

Sample ID:

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery		Percent Difference
				Reported	Recalculated	

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

METHOD: GC HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = $100 \cdot (SSC - SC) / SA$

Where SSC = Spiked sample concentration
 SA = Spike added

SC = Sample concentration

RPD = $(((SSCLCS - SSC(LCSD)) \cdot 2) / (SSCLCS + SSC(LCSD))) \cdot 100$

LCS = Laboratory Control Sample

LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples: LCS 6 250-6417 / 2,3-A

Compound	Spike Added (ug/L)		Spike Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)										
Diesel (8015)										
Benzene (8021B)										
Methane (RSK-175)										
2,4-D (8151)	4.60	4.60	5.47	6.89	119	119	150	150	23	23
Dinoseb (8151)										
Naphthalene (8310)										
Anthracene (8310)										
HMX (8330)										
2,4,6-Trinitrotoluene (8330)										

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 25667 JS

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: JV/6
2nd Reviewer: d

METHOD: GC HPLC

N N/A
 N N/A

Were all reported results recalculated and verified for all level IV samples?
Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration = $\frac{(A)(Fv)(Df)}{(RF)(Vs \text{ or } Ws)(\%S/100)}$

A = Area or height of the compound to be measured
Fv = Final Volume of extract
Df = Dilution Factor
RF = Average response factor of the compound
In the initial calibration

Vs = Initial volume of the sample
Ws = Initial weight of the sample
%S = Percent Solid

Example:

Sample ID: # Compound Name: 2,4-D

$$y = m1x + m2x^2 + b$$

$$\text{Concentration} = [0.001467(21585)] + [4.65917e+8](9.153e-10) + 2.5613$$

$$= 31.66 + 0.426 + 2.5613$$

$$= 34.65$$

#	Sample ID	Compound	Reported Concentrations	Recalculated Results Concentrations	Qualifications
		final conc.	= 34.65	(10 ml)	
			= 0.36 ug/L	(967.3 ml)	

Comments: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 20, 2011

LDC Report Date: June 16, 2011

Matrix: Water

Parameters: Cyanide

Validation Level: Level IV

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14865-1

Sample Identification

HAR-01_042011_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 9012A for Cyanide.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

All criteria for the initial calibration of each method were met.

III. Calibration Verification

Calibration verification frequency and analysis criteria were met.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No cyanide was found in the initial, continuing and preparation blanks.

No field blanks were identified in this SDG.

V. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VI. Duplicates

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Sample Result Verification

All sample result verifications were acceptable.

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-14865-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-14865-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-14865-1	HAR-01_042011_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-14865-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-14865-1

No Sample Data Qualified in this SDG

LDC #: 25667J6
 SDG #: 280-14865-1
 Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level IV

Date: 6/14/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: (Analyte) Cyanide (EPA SW846 Method 9012A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4-20-11
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	A	
IV	Matrix Spike/Matrix Spike Duplicates	N	Client Specified
V	Duplicates	N	↓
VI.	Laboratory control samples	A	
VII.	Sample result verification	A	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinstate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: *water*

1 ¹⁴	HAR-01_042011_01	11	PBW	21	31
2		12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

Method: Inorganics (EPA Method See cover)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Cooler temperature criteria was met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
II. Calibration				
Were all instruments calibrated daily, each set-up time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were the proper number of standards used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all initial calibration correlation coefficients > 0.995?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all initial and continuing calibration verification %Rs within the 90-110% QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were titrant checks performed as required? (Level IV only)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Were balance checks performed as required? (Level IV only)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
III. Blanks				
Was a method blank associated with every sample in this SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Were the MS/MSD or duplicate relative percent differences (RPD) \leq 20% for waters and \leq 35% for soil samples? A control limit of \leq CRDL (\leq 2X CRDL for soil) was used for samples that were \leq 5X the CRDL, including when only one of the duplicate sample values were $<$ 5X the CRDL.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
V. Laboratory control samples				
Was an LCS analyzed for this SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was an LCS analyzed per extraction batch?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% (85-115% for Method 300.0) QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were the performance evaluation (PE) samples within the acceptance limits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were detection limits < RL?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Target analytes were detected in the field duplicates.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
X. Field blanks				
Field blanks were identified in this SDG.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Target analytes were detected in the field blanks.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Validation Findings Worksheet
Initial and Continuing Calibration Calculation Verification

Method: Inorganics, Method See Cover

The correlation coefficient (r) for the calibration of CN was recalculated. Calibration date: 4/22/11

An initial or continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

%R = $\frac{\text{Found} \times 100}{\text{True}}$

Where, Found = concentration of each analyte measured in the analysis of the ICV or CCV solution

True = concentration of each analyte in the ICV or CCV source

Type of analysis	Analyte	Standard	Conc. (mg/l)	Area	Recalculated		Reported		Acceptable (Y/N)
					r or r ²	r or r ²	r or r ²	r or r ²	
Initial calibration	CN	s1	0	183	0.999966	0.999966			Y
		s2	10	8645					
		s3	20	16793					
		s4	50	41906					
		s5	100	83423					
		s6	200	166194					
		s7	400	326871					
Calibration verification		CCV	200	199,59	100	—	—		
Calibration verification		↓	↓	196,33	98	—	—	↓	
Calibration verification									

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 888778

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Page: 1 of 1
Reviewer: QR
2nd Reviewer: W

METHOD: Inorganics, Method SEE COVER

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$

Where, Found = concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = concentration of each analyte in the source.

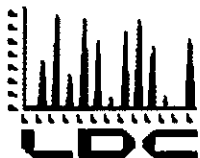
A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$$RPD = \frac{|S-D|}{(S+D)/2} \times 100$$

Where, S = Original sample concentration
D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	Found / S (units) mg/L	True / D (units) mg/L	Recalculated		Reported		Acceptable (Y/N)
					%R / RPD	%R / RPD	%R / RPD	%R / RPD	
LCS	Laboratory control sample	CN	0.0997	0.1	100	100	100	100	Y
N	Matrix spike sample		(SSR-SR)						
N	Duplicate sample								

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

June 21, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Level IV Data Validation

Dear Mr. Reiners,

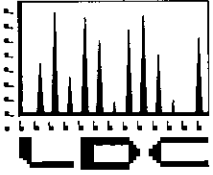
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on June 15, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25667:

<u>SDG #</u>	<u>Fraction</u>
280-14379-1	Semivolatiles, Cyanide
280-14432-1, 280-14967-1	Herbicides
280-14437-1/H1D120409, 280-14490-1/H1D130480, 280-14530-1/H1D140421, 280-14974-1/H1D260440, 280-15013-1/H1D270520, 280-15128-1/H1D300401	Dioxins/Dibenzofurans
280-14484-1/A1D120533	Chlorinated Pesticides, Herbicides, Wet Chemistry
280-14519-1, 280-14865-1	Herbicides, Cyanide
280-14655-1	Volatiles, Herbicides
280-14702-1	Semivolatiles, Herbicides
280-15011-1	Volatiles
280-15069-1, 280-15184-1	Cyanide
280-15126-1	Semivolatiles, Wet Chemistry

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010



- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 22, 2011

LDC Report Date: June 20, 2011

Matrix: Water

Parameters: Herbicides

Validation Level: Level IV

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14967-1

Sample Identification

HAR-25_042211_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8151A for Herbicides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration of compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Retention time windows were evaluated and considered technically acceptable.

III. Calibration Verification

Calibration verification was performed at the required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No herbicide contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/(Matrix Spike) Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D280-61497/2,3-A (All samples in SDG 280-14967-1)	2,4-D	-	150 (15-140)	-	J (all detects)	P

VIII. Target Compound Identification

All target compound identifications were within validation criteria.

IX. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14967-1	All compounds reported below the RL.	J (all detects)	A

X. System Performance

The system performance was acceptable.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Data Qualification Summary - SDG 280-14967-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14967-1	HAR-25_042211_01	2,4-D	J (all detects)	P	Laboratory control samples (%R) (L)
280-14967-1	HAR-25_042211_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Laboratory Blank Data Qualification Summary - SDG 280-14967-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Field Blank Data Qualification Summary - SDG 280-14967-1**

No Sample Data Qualified in this SDG

LDC #: 25667K5

VALIDATION COMPLETENESS WORKSHEET

Date: 4/16/11

SDG #: 280-14967-1

Level IV

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JVb

2nd Reviewer: [Signature]

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/22/11
II.	Initial calibration	A	70 RSD 6.30% r ²
III.	Calibration verification/ICV	A	CV/ICV ≤ 20%
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	SW	ICS / D
VIII.	Target compound identification	A	
IX.	Compound Quantitation and CRQLs	A	
X.	System Performance	A	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: water

1	HAR-25_042211_01	11	MB 280-69197/A	21	--	31	
2		12		22		32	
3		13		23		33	
4		14		24	-	34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Method: GC HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	/			
Cooler temperature criteria was met.	/			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	/			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) < 20%?	/	/		
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?	-		/	
Did the initial calibration meet the curve fit acceptance criteria?	/			
Were the RT windows properly established?	/			
III. Continuing calibration				
What type of continuing calibration calculation was performed? <u> </u> %D or <u> </u> %R	/			
Was a continuing calibration analyzed daily?	/			
Were all percent differences (%D) < 20%.0 or percent recoveries 80-120%?	/			
Were all the retention times within the acceptance windows?	/			
IV. Blanks				
Was a method blank associated with every sample in this SDG?	/			
Was a method blank analyzed for each matrix and concentration?	/			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.			/	
V. Surrogate spikes				
Were all surrogate %R within the QC limits?	/			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			/	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			/	
VI. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		/		
Was a MS/MSD analyzed every 20 samples of each matrix?		/		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			/	
VII. Laboratory control samples				
Was an LCS analyzed for this SDG?	/			
Was an LCS analyzed per extraction batch?	/			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	/			
VIII. Regional Quality Assurance and Quality Control				

Validation Area	Yes	No	NA	Findings/Comments
Were performance evaluation (PE) samples performed?		/		
Were the performance evaluation (PE) samples within the acceptance limits?			/	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	/			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	/			
XII. System performance				
System performance was found to be acceptable.	/			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	/			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		/		
Target compounds were detected in the field duplicates.			/	
XV. Field blanks				
Field blanks were identified in this SDG.		/		
Target compounds were detected in the field blanks.			/	

LDC#: 25667 k5

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 2
Reviewer: JM
2nd Reviewer: [Signature]

Method: GC Herbicides (EPA SW 846 Method 8151)

Calibration Date	Instrument/Column	Compound	Standard	(Y) Conc	(X) Response	(X ²) Response
4/28/2011	GCS M DB35MS	2,4-D	1	18.8	14081	198274561
			2	47.0	31519	993447361
			3	235.1	141853	20122273609
			4	470.2	265888	70696428544
			5	705.2	389254	151518676516
			6	940.3	492640	242694169600
			7	1880.6	839177	704218037329

CF
748.7
670.4
603.4
565.5
551.9
523.9
446.2
Ave 587.2

	Regression Output	
	Calculated	Reported
Constant	b = 2.5613	b = 2.5613
Std Err of Y Est		
Coefficient of Determination (r ²)	r ² 0.9998692	r ² 0.9998692
Degrees of Freedom		
X Coefficient(s)	m1 =	m1 =
Std Err of Coef.	0.00146691	0.00146691
Correlation Coefficient	9.1532E-10	9.15322E-10
	0.999935	

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Method: GC Herbicides (EPA SW 846 Method 8151)

Calibration Date	Instrument/Column	Compound	Standard	(Y) Conc	(X) Response	(X ²) Response
4/28/2011	GCS M DBXLB	2,4-D	1	18.8	15545	241647025
			2	47.0	30552	933424704
			3	235.1	127665	16298352225
			4	470.2	232888	54236820544
			5	705.2	336095	112959849025
			6	940.3	416248	173262397504
			7	1880.6	685731	470227004361

CF
826.6
649.8
543.1
495.3
476.6
442.7
364.6
Ave 542.7

Regression Output	Calculated		Reported	
	Constant	b =	0.3723	b =
Std Err of Y Est				
Coefficient of Determination (r ²)	r ²	0.9998000	r ²	0.9998000
Degrees of Freedom				
X Coefficient(s)	m1 =	m2 =	m1 =	m2 =
Std Err of Coef.	0.00155153	1.7297E-09	0.00155153	1.72973E-09
Correlation Coefficient		0.999900		

LDC #: 25 667K5

VALIDATION FINDINGS WORKSHEET

Surrogate Results Verification

Page: 1 of 1
Reviewer: JZ
2nd reviewer:

METHOD: GC HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: $SF/SS * 100$
Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery		Percent Difference
				Reported	Recalculated	
DCPAA	DB 35MS	50	604.06	121	121	0
	DB XLB	↓	578.45	120	120	↓

Sample ID:

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery		Percent Difference
				Reported	Recalculated	

Sample ID:

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery		Percent Difference
				Reported	Recalculated	

LDC #: 25667 ks

VALIDATION FINDINGS WORKSHEET

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [Signature]

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

METHOD: GC HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = $100 * (SSC - SC) / SA$

Where SSC = Spiked sample concentration

SC = Sample concentration

SA = Spike added

LCS = Laboratory Control Sample

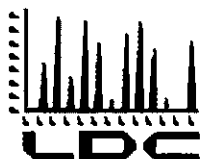
LCS/D = Laboratory Control Sample duplicate

RPD = $\frac{((SSCLCS - SSCLCSD) * 2) / (SSCLCS + SSCLCSD)}{100}$

LCS/LCSD samples: LCS/D 280-64197/2,3-A

Compound	Spike Added (ug/L)		Spike Sample Concentration (ug/L)		LCS		LCS/D		LCS		LCS/D		LCS/LCSD	
	LCS	LCS/D	LCS	LCS/D	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)														
Diesel (8015)														
Benzene (8021B)														
Methane (RSK-175)														
2,4-D (8151)	4.60	4.68	5.47	6.89	119	119	150	150	23	23				
Dinoseb (8151)														
Naphthalene (8310)														
Anthracene (8310)														
HMX (8330)														
2,4,6-Trinitrotoluene (8330)														

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

June 21, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Level IV Data Validation

Dear Mr. Reiners,

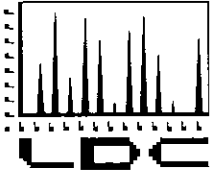
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on June 15, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25667:

<u>SDG #</u>	<u>Fraction</u>
280-14379-1	Semivolatiles, Cyanide
280-14432-1, 280-14967-1	Herbicides
280-14437-1/H1D120409, 280-14490-1/H1D130480, 280-14530-1/H1D140421, 280-14974-1/H1D260440, 280-15013-1/H1D270520, 280-15128-1/H1D300401	Dioxins/Dibenzofurans
280-14484-1/A1D120533	Chlorinated Pesticides, Herbicides, Wet Chemistry
280-14519-1, 280-14865-1	Herbicides, Cyanide
280-14655-1	Volatiles, Herbicides
280-14702-1	Semivolatiles, Herbicides
280-15011-1	Volatiles
280-15069-1, 280-15184-1	Cyanide
280-15126-1	Semivolatiles, Wet Chemistry

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010



- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV LDC #25667 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		SVOA (8270C)		Pest. (8081A)		Herbs (8151A)		Dioxins (8290)		CN- (9012A)		S= (4500 \$2 D)		W S		W S		W S		W S		W S		W S		W S		W S		W S				
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S			
Matrix: Water/Soil																																						
A	280-14379-1	06/15/11	06/22/11	-	-	3	0	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
B	280-14432-1	06/15/11	06/22/11	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
C	280-14437-1/ H1D120409	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
D	280-14484-1/ A1D120533	06/15/11	06/22/11	-	-	-	-	1	0	1	0	1	0	-	2	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
E	280-14490-1/ H1D130480	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
F	280-14519-1	06/15/11	06/22/11	-	-	-	-	-	-	1	0	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
G	280-14530-1/ H1D140421	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
H	280-14655-1	06/15/11	06/22/11	1	0	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
I	280-14702-1	06/15/11	06/22/11	-	-	1	0	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
J	280-14865-1	06/15/11	06/22/11	-	-	-	-	-	2	0	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
K	280-14967-1	06/15/11	06/22/11	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L	280-14974-1/ H1D260440	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M	280-15011-1	06/15/11	06/22/11	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N	280-15013-1/ H1D270520	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O	280-15069-1	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P	280-15126-1	06/15/11	06/22/11	-	-	1	0	-	-	-	-	-	-	3	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Q	280-15128-1 /H1D300401	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R	280-15184-1	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total				2	0	5	0	1	0	9	0	8	0	10	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 22, 2011

LDC Report Date: June 17, 2011

Matrix: Water

Parameters: Dioxins/Dibenzofurans

Validation Level: EPA Level IV

Laboratory: Test America Inc.

Sample Delivery Group (SDG): 280-14974-1/H1D260440

Sample Identification

HAR-02_042211_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance was checked at the required daily frequency.

Retention time windows were established for all homologues.

The chromatographic resolution between 2,3,7,8-TCDD and the peaks representing any other unlabeled TCDD isomers was resolved with a valley of less than or equal to 25%.

The exact mass of 380.9760 of PFK was verified.

The static resolving power was at least 10,000 (10% valley definition).

III. Initial Calibration

A five point initial calibration was performed as required by the method.

Percent relative standard deviations (%RSD) were less than or equal to 20.0% for unlabeled compounds and less than or equal to 30.0% for labeled compounds.

The ion abundance ratios for all PCDDs and PCDFs were within validation criteria.

The minimum S/N ratio for each target compound was greater than or equal to 2.5 and greater than or equal to 10 for each recovery and internal standard compound.

IV. Routine Calibration (Continuing)

Routine calibration was performed at the required frequencies.

All of the routine calibration percent differences (%D) between the initial calibration RRF and the routine calibration RRF were less than or equal to 20.0% for unlabeled compounds and less than or equal to 30.0% for labeled compounds.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for unlabeled compounds and less than or equal to 30.0% for labeled compounds.

The ion abundance ratios for all PCDDs and PCDFs were within validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14402-1) was identified as an equipment blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14659-1) was identified as a field blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. The percent recoveries (%R) were within the QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

All internal standard recoveries were within QC limits.

X. Target Compound Identifications

All target compound identifications were within validation criteria.

XI. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14974-1/H1D260440	All compounds reported below the RL.	J (all detects)	A

XII. System Performance

The system performance was acceptable.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-14974-1/H1D260440**

SDG	Sample	Compound	Flag	A or P	Reason
280-14974-1/H1D260440	HAR-02_042211_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-14974-1/H1D260440**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-14974-1/H1D260440**

No Sample Data Qualified in this SDG

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/22/11
II.	HRGC/HRMS Instrument performance check	A	
III.	Initial calibration	A	2 RSD ≤ 20% unlabeled ≤ 30% labeled
IV.	Routine calibration/ICV	A	CV/ICV ↓ ↓
V.	Blanks	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	A	LCS
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	A	
X.	Target compound identifications	A	
XI.	Compound quantitation and CRQLs	A	
XII.	System performance	A	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	ND	EB = EB-SH-04_040711 (from 280-14902-1) FB = FB-041411-19 (from 280-14659-1)

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

water

1	HAR-02_042211_01	11	1118104-MB	21	31
2		12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

Method: Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	/			
Cooler temperature criteria was met.	/			
II. GC/MS Instrument performance check				
Was PFK exact mass 380.9760 verified?	/			
Were the retention time windows established for all homologues?	/			
Was the chromatographic resolution between 2,3,7,8-TCDD and peaks representing any other unlabeled TCDD isomers < 25% ?	/			
Is the static resolving power at least 10,000 (10% valley definition)?	/			
Was the mass resolution adequately check with PFK?	/			
Was the presence of 1,2,8,9-TCDD and 1,3,4,6,8-PeCDF verified?	/			
III. Initial calibration				
Was the initial calibration performed at 5 concentration levels?	/			
Were all percent relative standard deviations (%RSD) ≤ 20% for unlabeled standards and < 30% for labeled standards?	/			
Did all calibration standards meet the Ion Abundance Ratio criteria?	/			
Was the signal to noise ratio for each target compound ≥ 2.5 and for each recovery and internal standard > 10?	/			
IV. Continuing calibration				
Was a routine calibration performed at the beginning and end of each 12 hour period?	/			
Were all percent differences (%D) ≤ 20% for unlabeled standards and ≤ 30% for labeled standards?	/			
Did all routine calibration standards meet the Ion Abundance Ratio criteria?	/			
V. Blanks				
Was a method blank associated with every sample in this SDG?	/			
Was a method blank performed for each matrix and concentration?	/			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet?			/	
VI. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		/		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			/	
VII. Laboratory control samples				
Was an LCS analyzed for this SDG?	/			
Was an LCS analyzed per extraction batch?	/			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	/			

Validation Area	Yes	No	NA	Findings/Comments
VIII. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		/		/
Were the performance evaluation (PE) samples within the acceptance limits?				/
IX. Internal standards				
Were internal standard recoveries within the 40-135% criteria?	/			
Was the minimum S/N ratio of all internal standard peaks > 10?	/			
X. Target compound identification				
For 2,3,7,8 substituted congeners with associated labeled standards, were the retention times of the two quantitation peaks within -1 to 3 sec. of the RT of the labeled standard?	/			
For 2,3,7,8 substituted congeners without associated labeled standards, were the relative retention times of the two quantitation peaks within 0.005 time units of the RRT measured in the routine calibration?	/			
For non-2,3,7,8 substituted congeners, were the retention times of the two quantitation peaks within RT established in the performance check solution?	/			
Did compound spectra contain all characteristic ions listed in the table attached?	/			
Was the Ion Abundance Ratio for the two quantitation ions within criteria?	/			
Was the signal to noise ratio for each target compound and labeled standard \geq 2.5?	/			
Does the maximum intensity of each specified characteristic ion coincide within \pm 2 seconds (includes labeled standards)?	/			
For PCDF identification, was any signal (S/N \geq 2.5, at \pm seconds RT) detected in the corresponding PCDF channel?	/			
Was an acceptable lock mass recorded and monitored?	/			
XI. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	/			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?		/		
XII. System performance				
System performance was found to be acceptable.	/			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	/			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		/		
Target compounds were detected in the field duplicates.			/	
XV. Field blanks				
Field blanks were identified in this SDG.	/			
Target compounds were detected in the field blanks.		/		

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$$RRF = (A_x)(C_{is}) / (A_{is})(C_x)$$

average RRF = sum of the RRFs/number of standards

$$\%RSD = 100 * (S/X)$$

A_x = Area of Compound

C_x = Concentration of compound,

S = Standard deviation of the RRFs,

A_{is} = Area of associated internal standard

C_{is} = Concentration of internal standard

X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (0.5/2.5/5 std)	Recalculated RRF (0.5/2.5/5 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	6/30/2010	2,3,7,8-TCDF (13C-2,3,7,8-TCDF)	0.944	0.944	0.986	0.986	5.3	5.3
	MZA		2,3,7,8-TCDD (13C-2,3,7,8-TCDD)	0.897	0.897	1.021	1.021	9.2	9.3
			1,2,3,6,7,8-HxCDD (13C-1,2,3,6,7,8-HxCDD)	0.939	0.939	0.943	0.943	2.9	2.9
			1,2,3,4,6,7,8-HpCDD (13C-1,2,4,6,7,8-HpCDD)	1.096	1.096	1.037	1.037	4.2	4.2
			OCDD (13C-OCDD)	1.048	1.048	1.011	1.011	3.5	3.5

Cis/Cx	Area cpd	Area IS
100/5	13459	2852888
100/5	9289	2070083
100/2.5	40427	1721480
100/2.5	45039	1643630
100/5	83135	3172926

Conc	2,3,7,8-TCDF	2,3,7,8-TCDD	1,2,3,6,7,8-HxCDD	1,2,3,4,6,7,8-HpCDD	OCDD
0.5/2.5/5	0.944	0.897	0.939	1.096	1.048
2/10/20	1.075	1.160	0.989	1.073	1.050
10/50/100	0.965	1.029	0.934	1.009	0.953
40/200/400	0.961	0.991	0.940	1.003	0.952
200/1000/2000	0.984	1.026	0.915	1.006	0.991
X =	0.986	1.021	0.943	1.037	1.011
S =	0.0519	0.0945	0.0274	0.0438	0.0351

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

METHOD: GC/MS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = $100 * SSC/SA$ Where: SSC = Spiked sample concentration
SA = Spike added

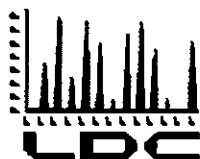
RPD = $|LCS - LCSD| * 2 / (LCS + LCSD)$

LCS = Laboratory control sample percent recovery LCSD = Laboratory control sample duplicate percent recovery

LCS ID: 1118104-LCS A

Compound	Spike Added (pg/L)		Spiked Sample Concentration (pg/L)		LCS		LCSD		Percent Recovery		RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.	Reported	Recalculate
2,3,7,8-TCDD	200	200	192	188	96	96	94	94	2.0	2.1		
1,2,3,7,8-PeCDD	100	100	876	873	88	88	87	87	0.32	0.34		
1,2,3,4,7,8-HxCDD			763	760	76	76	76	76	0.40	0.40		
1,2,3,4,7,8,9-HpCDF			904	902	90	90	90	90	0.16	0.22		
OCDF	200	200	1990	2000	100	100	100	100	0.48	0.5		

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

June 21, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Level IV Data Validation

Dear Mr. Reiners,

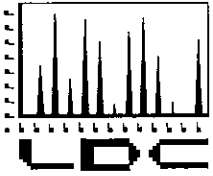
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on June 15, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25667:

<u>SDG #</u>	<u>Fraction</u>
280-14379-1	Semivolatiles, Cyanide
280-14432-1, 280-14967-1	Herbicides
280-14437-1/H1D120409, 280-14490-1/H1D130480, 280-14530-1/H1D140421, 280-14974-1/H1D260440, 280-15013-1/H1D270520, 280-15128-1/H1D300401	Dioxins/Dibenzofurans
280-14484-1/A1D120533	Chlorinated Pesticides, Herbicides, Wet Chemistry
280-14519-1, 280-14865-1	Herbicides, Cyanide
280-14655-1	Volatiles, Herbicides
280-14702-1	Semivolatiles, Herbicides
280-15011-1	Volatiles
280-15069-1, 280-15184-1	Cyanide
280-15126-1	Semivolatiles, Wet Chemistry

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010



- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV LDC #25667 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE RECD	(3) DATE DUE	VOA (8260B)		SVOA (8270C)		Pest. (8081A)		Herbs (8151A)		Dioxins (8290)		CN- (9012A)		S= (4500 -S2 D)		W		S		W		S				
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	
Matrix: Water/Soil																												
A	280-14379-1	06/15/11	06/22/11	-	-	3	0	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	
B	280-14432-1	06/15/11	06/22/11	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
C	280-14437-1/ H1D120409	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
D	280-14484-1/ A1D120533	06/15/11	06/22/11	-	-	-	-	1	0	1	0	-	-	2	0	1	0	-	-	-	-	-	-	-	-	-	-	
E	280-14490-1/ H1D130480	06/15/11	06/22/11	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
F	280-14519-1	06/15/11	06/22/11	-	-	-	-	-	-	1	0	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	
G	280-14530-1/ H1D140421	06/15/11	06/22/11	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
H	280-14655-1	06/15/11	06/22/11	1	0	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
I	280-14702-1	06/15/11	06/22/11	-	-	1	0	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
J	280-14865-1	06/15/11	06/22/11	-	-	-	-	-	-	2	0	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	
K	280-14967-1	06/15/11	06/22/11	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
L	280-14974-1/ H1D260440	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
M	280-15011-1	06/15/11	06/22/11	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
N	280-15013-1/ H1D270520	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
O	280-15069-1	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	
P	280-15126-1	06/15/11	06/22/11	-	-	1	0	-	-	-	-	-	-	3	0	1	0	-	-	-	-	-	-	-	-	-	-	
Q	280-15128-1 /H1D300401	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R	280-15184-1	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	
Total				2	0	5	0	1	0	9	0	8	0	10	0	2	0	0	0	0	0	0	0	0	0	0	0	37

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 25, 2011

LDC Report Date: June 20, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level IV

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15011-1

Sample Identification

ES-17_042511_01

ES-17_042511_01MS

ES-17_042511_01MSD

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all compounds.

Average relative response factors (RRF) for all compounds were within method and validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
4/16/11	Acrolein Acrylonitrile	0.0140 (≥0.05) 0.0282 (≥0.05)	All samples in SDG 280-15011-1	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs) and 25.0% for all other compounds with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
5/7/11	Dichlorodifluoromethane Trichlorofluoromethane Carbon tetrachloride	57.8 50.5 30.4	All samples in SDG 280-15011-1	J (all detects) UJ (all non-detects)	A

The percent differences (%D) of the second source calibration standard were less than or equal to 25.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within method and validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
5/7/11	Acrolein Acrylonitrile	0.0129 (≥0.05) 0.0258 (≥0.05)	All samples in SDG 280-15011-1	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-66615/6	5/9/11	Trichloroethene	0.537 ug/L	All samples in SDG 280-15011-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
ES-17_042511_01	Toluene-d8	118 (88-110)	All TCL compounds except Acrolein Acrylonitrile cis-1,2-Dichloroethene Trichloroethene 1,1,2-Trichloro-1,2,2-trifluoroethane	J (all detects)	A

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
ES-17_042511_01MS/MSD (ES-17_042511_01)	1,1,2,2-Tetrachloroethane Bromoform Carbon disulfide Carbon tetrachloride Dibromochloromethane Methylene chloride	75 (77-120) 73 (74-121) 52 (56-120) 73 (80-120) 73 (76-120) 51 (60-134)	- - - - - -	- - - - - 31 (≤20)	J (all detects) UJ (all non-detects)	A

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS280-66378/4 (All samples in SDG 280-15011- 1)	Carbon tetrachloride	121 (80-120)	-	-	J (all detects)	P

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15011-1	All compounds reported below the RL.	J (all detects)	A

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-15011-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15011-1	ES-17_042511_01	Acrolein Acrylonitrile	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A	Initial calibration (RRF) (R)
280-15011-1	ES-17_042511_01	Dichlorodifluoromethane Trichlorofluoromethane Carbon tetrachloride	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D) (C)
280-15011-1	ES-17_042511_01	Acrolein Acrylonitrile	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A	Continuing calibration (RRF) (R)
280-15011-1	ES-17_042511_01	All TCL compounds except Acrolein Acrylonitrile cis-1,2-Dichloroethene Trichloroethene 1,1,2-Trichloro-1,2,2-trifluoroethane	J (all detects)	A	Surrogate spikes (%R) (S)
280-15011-1	ES-17_042511_01	1,1,2,2-Tetrachloroethane Bromoform Carbon disulfide Carbon tetrachloride Dibromochloromethane	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R)(Q)
280-15011-1	ES-17_042511_01	Methylene chloride	J (all detects). UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R)(RPD) (Q)
280-15011-1	ES-17_042511_01	Carbon tetrachloride	J (all detects)	P	Laboratory control samples (%R) (L)
280-15011-1	ES-17_042511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-15011-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-15011-1**

No Sample Data Qualified in this SDG

LDC #: 25667M1a

VALIDATION COMPLETENESS WORKSHEET

Date: 6/17/11

SDG #: 280-15011-1

Level IV

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JVB

2nd Reviewer: J

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/25/11
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	SW	% RSD \leq 30% ✓
IV.	Continuing calibration/ICV	SW	CV/ICV \leq 25%
V.	Blanks	SW	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	SW	US/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	
XII.	Compound quantitation/CRQLs	A	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	A	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	ES-17_042511_01	11	MB 280-66615/6	(RRR, S, TTT)	21	31
2	ES-17_042511_01MS	12	MB 280-66372/5		22	32
3	ES-17_042511_01MSD	13			23	33
4		14			24	34
5		15			25	35
6		16			26	36
7		17			27	37
8		18			28	38
9		19			29	39
10		20			30	40

Method: Volatiles (EPA SW 846 Method 8260B)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	/			
Cooler temperature criteria was met.	/			
II. GC/MS Instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	/			
Were all samples analyzed within the 12 hour clock criteria?	/			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	/			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	/			
Was a curve fit used for evaluation?	/			
Did the initial calibration meet the curve fit acceptance criteria of > 0.990?	/			
Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) > 0.05?	/	/		
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	/			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	/			
Were all percent differences (%D) < 25% and relative response factors (RRF) > 0.05?		/		
V. Blanks				
Was a method blank associated with every sample in this SDG?	/			
Was a method blank analyzed at least once every 12 hours for each matrix and concentration?	/			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	/			
VI. Surrogate spikes				
Were all surrogate %R within QC limits?		/		
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?	/			
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	/			
Was a MS/MSD analyzed every 20 samples of each matrix?	/			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?		/		
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	/			

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per analytical batch?	/			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?			/	
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			/	
Were the performance evaluation (PE) samples within the acceptance limits?			/	
X. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	/			
Were retention times within + 30 seconds of the associated calibration standard?	/			
XI. Target compound identification				
Were relative retention times (RRT's) within + 0.06 RRT units of the standard?	/			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	/			
Were chromatogram peaks verified and accounted for?			/	
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	/			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	/			
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			/	
Were relative intensities of the major ions within + 20% between the sample and the reference spectra?			/	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?			/	
XIV. System performance				
System performance was found to be acceptable.	/			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	/			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.		/		
Target compounds were detected in the field duplicates.			/	
XVII. Field blanks				
Field blanks were identified in this SDG.		/		
Target compounds were detected in the field blanks.			/	

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,1-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC. 1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl chloride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethane	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$$RRF = (A_x)(C_{is}) / (A_{is})(C_x)$$

average RRF = sum of the RRFs/number of standards
 %RSD = $100 * (S/X)$

$$A_x = \text{Area of Compound}$$

$$C_x = \text{Concentration of compound}$$

$$S = \text{Standard deviation of the RRFs}$$

$$A_{is} = \text{Area of associated internal standard}$$

$$C_{is} = \text{Concentration of internal standard}$$

$$X = \text{Mean of the RRFs}$$

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (RRF 10 std)	Recalculated RRF (RRF 10 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	4/29/2011	Dichlorodifluoromethane (IS1)	see r2 calc					
	GC MSV G		Ethylbenzene (IS2)	2.0039	2.0039	2.0329	2.0329	6.7	6.7
			1,1,2,2-TCA (IS3)	0.5914	0.5914	0.6135	0.6135	4.9	4.9

Cis/Cx	Ax	Ais
12.5/10	249099	936852
12.5/10	282040	175935
12.5/10	96395	203729

Conc	DCFM	Ethylbenzene	1,1,2,2-TCA
0.3	r2	2.2660	0.6106
1		2.0679	0.6181
2		1.9341	0.6098
5		2.1411	0.6772
10		2.0039	0.5914
30		1.8781	0.6007
60		1.9392	0.5869
X =	#DIV/0!	2.0329	0.6135
S =	#DIV/0!	0.1358	0.0302

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: GCMS Volatiles (EPA SW 846 Method 8260B)

Parameter: Dichlorofluoromethane

Order of regression: Linear

Date	Column	Compound	Points	x area ratio	y conc ratio
1-Nov-10	DB-624	Dichlorofluoromethane	Point 1	0.018243053	0.080
			Point 2	0.052533324	0.160
			Point 3	0.154936121	0.400
			Point 4	0.265889383	0.800
			Point 5	0.666047916	2.400
			Point 6	1.317581944	4.800

RF
 0.2280
 0.3283
 0.3873
 0.3324
 0.2784
 0.2745
 Ave 0.3048

Regression Output: Regression Output:		Reported WLR
Constant	-0.08531	b = -0.08500
Std Err of Y Est	0.04	
R Squared	0.99827	r ² = 0.99827
No. of Observations	6.00	
Degrees of Freedom	4.00	
X Coefficient(s)	0.27021	m1 = 0.2707
Std Err of Coef.	0.01	

VALIDATION FINDINGS WORKSHEET
 Continuing Calibration Calculation Verification

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

Where:
 $\% \text{ Difference} = 100 * (\text{ave. RRF} - \text{RRF}) / \text{ave. RRF}$
 $\text{RRF} = (\text{Ax}) / (\text{Cis}) / (\text{Ais}) / (\text{Cx})$
 ax = Area of compound
 ave. RRF = initial calibration average RRF
 RRF = continuing calibration RRF
 Cx = Concentration of compound,
 Ais = Area of associated internal standard
 Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (IS)	Average RRF (Initial)	Reported RRF (CCV)	Recalculated RRF (CCV)	Reported % D	Recalculated % D
1	G5063	5/7/2011	Dichlorodifluoromethane (IS1)	10.000	15.800	15.778	57.8	57.8
	GC MSV G		Ethylbenzene (IS2)	2.033	2.154	2.154	6.0	6.0
			1,1,2,2-TCA (IS3)	0.614	0.518	0.518	15.5	15.5

CCV1

Cis/Cx	Compound (IS)	Ax	Ais
50/50	Dichlorodifluoromethane (IS1)	343636	942011
50/50	Ethylbenzene (IS2)	309651	179669
50/50	1,1,2,2-TCA (IS3)	96874	233624

Conc = (Response ratio/m1) * b
 Compound Response Ratio m1 conc
 Dichlorodifluoromethane (IS1) 0.364789795 0.2707 15.7783699
 -0.08531

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: $SF/SS * 100$

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: # 1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane	11.0	12.96	118	118	0
1,2-Dichloroethane-d4		12.89	117	117	
Toluene-d8		12.93	118	118	
Bromofluorobenzene		12.70	115	115	

Sample ID: _____

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID: _____

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID: _____

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID: _____

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = $100 * SSC/SA$ Where: SSC = Spiked sample concentration
SA = Spike added

RPD = $|LCSC - LCSDC| * 2 / (LCSC + LCSDC)$

LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: LCS 280-65378/A

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS		LCSD		Percent Recovery		Percent Recovery		RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalc	Reported	Recalc	Reported	Recalc
1,1-Dichloroethene	5.00	VA	5.99	VA	120	129								
Trichloroethene			5.03		101	107								
Benzene			4.57		91	91								
Toluene			4.80		96	96								
Chlorobenzene			4.66		93	93								

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

- Y/N N/A Were all reported results recalculated and verified for all level IV samples?
- Y/N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

$$\text{Concentration} = \frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_s)(\%S)}$$

- A_x = Area of the characteristic ion (EICP) for the compound to be measured
- A_{is} = Area of the characteristic ion (EICP) for the specific internal standard
- I_s = Amount of internal standard added in nanograms (ng)
- RRF = Relative response factor of the calibration standard.
- V_s = Volume or weight of sample pruged in milliliters (ml) or grams (g).
- Df = Dilution factor.
- %S = Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. 4 . . . JJ:

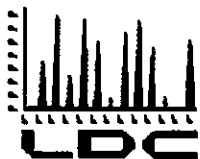
$$\text{Conc.} = \left[\frac{(32520)}{(56271)} \right] \left(\frac{0.2707}{0.085} \right)$$

= 0.1285 (12.5)

= 1.606

final conc. = (1.606) (20 ml)

#	Sample ID	Compound	Reported Concentration ()	Calculated Concentration ()	Qualification
				(10 ml)	
				= 3.2 ug/L	



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

June 21, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Level IV Data Validation

Dear Mr. Reiners,

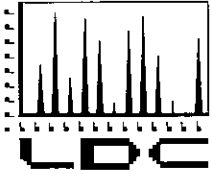
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on June 15, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25667:

<u>SDG #</u>	<u>Fraction</u>
280-14379-1	Semivolatiles, Cyanide
280-14432-1, 280-14967-1	Herbicides
280-14437-1/H1D120409, 280-14490-1/H1D130480, 280-14530-1/H1D140421, 280-14974-1/H1D260440, 280-15013-1/H1D270520, 280-15128-1/H1D300401	Dioxins/Dibenzofurans
280-14484-1/A1D120533	Chlorinated Pesticides, Herbicides, Wet Chemistry
280-14519-1, 280-14865-1	Herbicides, Cyanide
280-14655-1	Volatiles, Herbicides
280-14702-1	Semivolatiles, Herbicides
280-15011-1	Volatiles
280-15069-1, 280-15184-1	Cyanide
280-15126-1	Semivolatiles, Wet Chemistry

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010



- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV LDC #25667 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		SVOA (8270C)		Pest. (8081A)		Herbs (8151A)		Dioxins (8290)		CN- (9012A)		S= (4500 -S2 D)		W		S		W		S		W		S			
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
Matrix: Water/Soil																															
A	280-14379-1	06/15/11	06/22/11	-	-	3	0	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
B	280-14432-1	06/15/11	06/22/11	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
C	280-14437-1/ H1D120409	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
D	280-14484-1/ A1D120533	06/15/11	06/22/11	-	-	-	-	1	0	1	0	-	-	2	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	
E	280-14490-1/ H1D130480	06/15/11	06/22/11	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
F	280-14519-1	06/15/11	06/22/11	-	-	-	-	-	-	1	0	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
G	280-14530-1/ H1D140421	06/15/11	06/22/11	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
H	280-14655-1	06/15/11	06/22/11	1	0	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
I	280-14702-1	06/15/11	06/22/11	-	-	1	0	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
J	280-14865-1	06/15/11	06/22/11	-	-	-	-	-	2	0	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
K	280-14967-1	06/15/11	06/22/11	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
L	280-14974-1/ H1D260440	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
M	280-15011-1	06/15/11	06/22/11	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
N	280-15013-1/ H1D270520	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
O	280-15069-1	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
P	280-15126-1	06/15/11	06/22/11	-	-	1	0	-	-	-	-	-	-	3	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	
Q	280-15128-1/ /H1D300401	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R	280-15184-1	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total				2	0	5	0	1	0	9	0	8	0	10	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 25, 2011

LDC Report Date: June 17, 2011

Matrix: Water

Parameters: Dioxins/Dibenzofurans

Validation Level: EPA Level IV

Laboratory: Test America Inc.

Sample Delivery Group (SDG): 280-15013-1/H1D270520

Sample Identification

HAR-33_042511_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance was checked at the required daily frequency.

Retention time windows were established for all homologues.

The chromatographic resolution between 2,3,7,8-TCDD and the peaks representing any other unlabeled TCDD isomers was resolved with a valley of less than or equal to 25%.

The exact mass of 380.9760 of PFK was verified.

The static resolving power was at least 10,000 (10% valley definition).

III. Initial Calibration

A five point initial calibration was performed as required by the method.

Percent relative standard deviations (%RSD) were less than or equal to 20.0% for unlabeled compounds and less than or equal to 30.0% for labeled compounds.

The ion abundance ratios for all PCDDs and PCDFs were within validation criteria.

The minimum S/N ratio for each target compound was greater than or equal to 2.5 and greater than or equal to 10 for each recovery and internal standard compound.

IV. Routine Calibration (Continuing)

Routine calibration was performed at the required frequencies.

All of the routine calibration percent differences (%D) between the initial calibration RRF and the routine calibration RRF were less than or equal to 20.0% for unlabeled compounds and less than or equal to 30.0% for labeled compounds.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for unlabeled compounds and less than or equal to 30.0% for labeled compounds.

The ion abundance ratios for all PCDDs and PCDFs were within validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

All internal standard recoveries were within QC limits.

X. Target Compound Identifications

All target compound identifications were within validation criteria.

XI. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15013-1/H1D270520	All compounds reported below the RL.	J (all detects)	A

XII. System Performance

The system performance was acceptable.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-15013-1/H1D270520**

SDG	Sample	Compound	Flag	A or P	Reason
280-15013-1/H1D270520	HAR-33_042511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-15013-1/H1D270520**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-15013-1/H1D270520**

No Sample Data Qualified in this SDG

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/25/11
II.	HRGC/HRMS Instrument performance check	A	
III.	Initial calibration	A	5% RSD ≤ 20% unlabeled ≤ 30% labeled
IV.	Routine calibration/ICV	A	CV/IN ≤ 20% ↓ ≤ 30% ↓
V.	Blanks	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	A	UCS 1p
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	A	
X.	Target compound identifications	A	
XI.	Compound quantitation and CRQLs	A	
XII.	System performance	A	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: WATER

1	HAR-33_042511_01	11	1118104-MB	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Method: Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	/			
Cooler temperature criteria was met.	/			
II. GC/MS Instrument performance check				
Was PFK exact mass 380.9760 verified?	/			
Were the retention time windows established for all homologues?	/			
Was the chromatographic resolution between 2,3,7,8-TCDD and peaks representing any other unlabeled TCDD isomers < 25% ?	/			
Is the static resolving power at least 10,000 (10% valley definition)?	/			
Was the mass resolution adequately check with PFK?	/			
Was the presence of 1,2,8,9-TCDD and 1,3,4,6,8-PeCDF verified?				
III. Initial calibration				
Was the initial calibration performed at 5 concentration levels?	/			
Were all percent relative standard deviations (%RSD) ≤ 20% for unlabeled standards and < 30% for labeled standards?	/			
Did all calibration standards meet the Ion Abundance Ratio criteria?	/			
Was the signal to noise ratio for each target compound ≥ 2.5 and for each recovery and internal standard > 10?	/			
IV. Continuing calibration				
Was a routine calibration performed at the beginning and end of each 12 hour period?	/			
Were all percent differences (%D) ≤ 20% for unlabeled standards and ≤ 30% for labeled standards?	/			
Did all routine calibration standards meet the Ion Abundance Ratio criteria?	/			
V. Blanks				
Was a method blank associated with every sample in this SDG?	/			
Was a method blank performed for each matrix and concentration?	/			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet?		/		
VI. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		/		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			/	
VII. Laboratory control samples				
Was an LCS analyzed for this SDG?	/			
Was an LCS analyzed per extraction batch?	/			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	/			

Validation Area	Yes	No	NA	Findings/Comments
VIII: Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		/		
Were the performance evaluation (PE) samples within the acceptance limits?			/	
IX: Internal standards				
Were internal standard recoveries within the 40-135% criteria?	/			
Was the minimum S/N ratio of all internal standard peaks > 10?	/			
X: Target compound identification				
For 2,3,7,8 substituted congeners with associated labeled standards, were the retention times of the two quantitation peaks within -1 to 3 sec. of the RT of the labeled standard?	/			
For 2,3,7,8 substituted congeners without associated labeled standards, were the relative retention times of the two quantitation peaks within 0.005 time units of the RRT measured in the routine calibration?	/			
For non-2,3,7,8 substituted congeners, were the retention times of the two quantitation peaks within RT established in the performance check solution?	/			
Did compound spectra contain all characteristic ions listed in the table attached?	/			
Was the Ion Abundance Ratio for the two quantitation ions within criteria?	/			
Was the signal to noise ratio for each target compound and labeled standard \geq 2.5?	/			
Does the maximum intensity of each specified characteristic ion coincide within \pm 2 seconds (includes labeled standards)?	/			
For PCDF identification, was any signal ($S/N \geq 2.5$, at \pm seconds RT) detected in the corresponding PCDF channel?	/			
Was an acceptable lock mass recorded and monitored?	/			
XI: Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	/			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	/			
XII: System performance				
System performance was found to be acceptable.	/			
XIII: Overall assessment of data				
Overall assessment of data was found to be acceptable.	/			
XIV: Field duplicates				
Field duplicate pairs were identified in this SDG.		/		
Target compounds were detected in the field duplicates.			/	
XV: Field blanks				
Field blanks were identified in this SDG.		/		
Target compounds were detected in the field blanks.			/	

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$$RRF = (A_x)(C_{is}) / (A_{is})(C_x)$$

average RRF = sum of the RRFs/number of standards

$$\%RSD = 100 * (S/X)$$

A_x = Area of Compound

C_x = Concentration of compound,

S = Standard deviation of the RRFs,

A_{is} = Area of associated internal standard

C_{is} = Concentration of internal standard

X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (0.5/2.5/5 std)	Recalculated RRF (0.5/2.5/5 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	6/30/2010	2,3,7,8-TCDF (13C-2,3,7,8-TCDF)	0.944	0.944	0.986	0.986	5.3	5.3
	MZA		2,3,7,8-TCDD (13C-2,3,7,8-TCDD)	0.897	0.897	1.021	1.021	9.2	9.3
			1,2,3,6,7,8-HxCDD (13C-1,2,3,6,7,8-HxCDD)	0.939	0.939	0.943	0.943	2.9	2.9
			1,2,3,4,6,7,8-HpCDD (13C-1,2,4,6,7,8-HpCDD)	1.096	1.096	1.037	1.037	4.2	4.2
			OCDD (13C-OCDD)	1.048	1.048	1.011	1.011	3.5	3.5

Cis/Cx	Area cpd	Area IS
100/5	13459	2852888
100/5	9289	2070083
100/2.5	40427	1721480
100/2.5	45039	1643630
100/5	83135	3172926

Conc	2,3,7,8-TCDF	2,3,7,8-TCDD	1,2,3,6,7,8-HxCDD	1,2,3,4,6,7,8-HpCDD	OCDD
0.5/2.5/5	0.944	0.897	0.939	1.096	1.048
2/10/20	1.075	1.160	0.989	1.073	1.050
10/50/100	0.965	1.029	0.934	1.009	0.983
40/200/400	0.961	0.991	0.940	1.003	0.982
200/1000/2000	0.984	1.026	0.915	1.006	0.991
X =	0.986	1.021	0.943	1.037	1.011
S =	0.0519	0.0945	0.0274	0.0438	0.0351

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = $100 * (\text{ave. RRF} - \text{RRF}) / \text{ave. RRF}$
 $\text{RRF} = (\text{Ax})(\text{Cis}) / (\text{Ais})(\text{Cx})$

ave. RRF = |CAL average RRF
 RRF = CCV RRF
 Ax = Area of compound
 Cx = Concentration of compound
 Ais = Area of associated internal standard
 Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (IS)	Average RRF (Initial RRF)	Reported (CC RRF)	Recalculated (CC RRF)	Reported %D	Recalculated %D
1	b110503s2	05/03/11 22:41	2,3,7,8-TCDF (13C-2,3,7,8-TCDF)	0.986	1.011	1.011	2.6	2.5
			2,3,7,8-TCDD (13C-2,3,7,8-TCDD)	1.021	1.031	1.031	1.0	1.0
			1,2,3,6,7,8-HxCDD (13C-1,2,3,6,7,8-HxCDD)	0.943	0.990	0.990	4.9	4.9
			1,2,3,4,6,7,8-HpCDD (13C-1,2,4,6,7,8-HpCDD)	1.037	1.005	1.005	3.1	3.1
			OCDD (13C-OCDD)	1.011	0.971	0.971	3.9	3.9
1	b110504s1	05/04/11 8:03	2,3,7,8-TCDF (13C-2,3,7,8-TCDF)	0.986	1.010	1.010	6.4	2.4
			2,3,7,8-TCDD (13C-2,3,7,8-TCDD)	1.021	1.096	1.096	7.4	7.4
			1,2,3,6,7,8-HxCDD (13C-1,2,3,6,7,8-HxCDD)	0.943	0.963	0.963	2.1	2.1
			1,2,3,4,6,7,8-HpCDD (13C-1,2,4,6,7,8-HpCDD)	1.037	0.992	0.992	4.4	4.4
			OCDD (13C-OCDD)	1.011	0.972	0.972	3.9	3.9

Compound (IS)	Concentration (IS/Cpd)	Area Cpd	Area IS	Area Cpd	Area IS
2,3,7,8-TCDF (13C-2,3,7,8-TCDF)	100/10	292865	2897228	266119	2635657
2,3,7,8-TCDD (13C-2,3,7,8-TCDD)	100/10	211308	2049478	206935	1888004
1,2,3,6,7,8-HxCDD (13C-1,2,3,6,7,8-HxCDD)	100/50	776347	1569119	682156	1416063
1,2,3,4,6,7,8-HpCDD (13C-1,2,4,6,7,8-HpCDD)	100/50	727484	1447608	617239	1244095
OCDD (13C-OCDD)	100/50	1307289	2692443	1111079	2286913

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

METHOD: GC/MS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = $100 * SSC/SA$ Where: SSC = Spiked sample concentration
 SA = Spike added

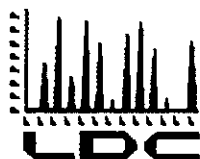
RPD = $|LCS - LCSD| * 2 / (LCS + LCSD)$

LCS = Laboratory control sample percent recovery LCSD = Laboratory control sample duplicate percent recovery

LCS ID: 1118104 - LCS 1b

Compound	Spike Added (pg/L)		Spiked Sample Concentration (pg/L)		LCS		LCSD		Percent Recovery		RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
	2,3,7,8-TCDD	200	200	192	188	96	96	94	94	2.0	2.1	
1,2,3,7,8-PeCDD	1000	1000	876	873	88	88	87	87	0.32	0.34		
1,2,3,4,7,8-HxCDD	1000	1000	763	760	76	76	76	76	0.40	0.40		
1,2,3,4,7,8,9-HpCDF	2000	2000	904	902	90	90	90	90	0.16	0.20		
OCDF	2000	2000	1990	2000	100	100	100	100	0.48	0.50		

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

June 21, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Level IV Data Validation

Dear Mr. Reiners,

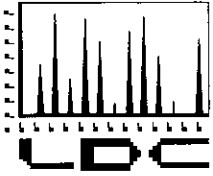
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on June 15, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25667:

<u>SDG #</u>	<u>Fraction</u>
280-14379-1	Semivolatiles, Cyanide
280-14432-1, 280-14967-1	Herbicides
280-14437-1/H1D120409, 280-14490-1/H1D130480, 280-14530-1/H1D140421, 280-14974-1/H1D260440, 280-15013-1/H1D270520, 280-15128-1/H1D300401	Dioxins/Dibenzofurans
280-14484-1/A1D120533	Chlorinated Pesticides, Herbicides, Wet Chemistry
280-14519-1, 280-14865-1	Herbicides, Cyanide
280-14655-1	Volatiles, Herbicides
280-14702-1	Semivolatiles, Herbicides
280-15011-1	Volatiles
280-15069-1, 280-15184-1	Cyanide
280-15126-1	Semivolatiles, Wet Chemistry

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010



- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV LDC #25667 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		SVOA (8270C)		Pest. (8081A)		Herbs (8151A)		Dioxins (8290)		CN- (9012A)		S= (4500 -S2 D)		W		S		W		S		W		S			
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
Matrix: Water/Soil																															
A	280-14379-1	06/15/11	06/22/11	-	-	3	0	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
B	280-14432-1	06/15/11	06/22/11	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
C	280-14437-1/ H1D120409	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
D	280-14484-1/ A1D120533	06/15/11	06/22/11	-	-	-	-	1	0	1	0	-	-	2	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	
E	280-14490-1/ H1D130480	06/15/11	06/22/11	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
F	280-14519-1	06/15/11	06/22/11	-	-	-	-	-	1	0	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
G	280-14530-1/ H1D140421	06/15/11	06/22/11	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
H	280-14655-1	06/15/11	06/22/11	1	0	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
I	280-14702-1	06/15/11	06/22/11	-	-	1	0	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
J	280-14865-1	06/15/11	06/22/11	-	-	-	-	-	2	0	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
K	280-14967-1	06/15/11	06/22/11	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
L	280-14974-1/ H1D260440	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
M	280-15011-1	06/15/11	06/22/11	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
N	280-15013-1/ H1D270520	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O	280-15069-1	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
P	280-15126-1	06/15/11	06/22/11	-	-	1	0	-	-	-	-	-	-	3	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	
Q	280-15128-1/ /H1D300401	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R	280-15184-1	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total						2	0	5	0	1	0	9	0	8	0	10	0	2	0	0	0	0	0	0	0	0	0	0	0	0	37

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 26, 2011

LDC Report Date: June 16, 2011

Matrix: Water

Parameters: Cyanide

Validation Level: Level IV

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15069-1

Sample Identification

PZ-035_042611_01

PZ-035_042611_01MS

PZ-035_042611_01MSD

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 9012A for Cyanide.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

All criteria for the initial calibration were met.

III. Calibration Verification

Calibration verification frequency and analysis criteria were met.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No cyanide was found in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
PB (prep blank)	Cyanide	0.00323 mg/L	All samples in SDG 280-15069-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
PZ-035_042611_01	Cyanide	0.0047 mg/L	0.0047U mg/L

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No cyanide was found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_SH-04_040711	4/7/11	Cyanide	0.0020 mg/L	All samples in SDG 280-15069-1

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No cyanide was found in this blank.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
PZ-035_042611_01	Cyanide	0.0047 mg/L	0.0047U mg/L

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All sample result verifications were acceptable.

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-15069-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-15069-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-15069-1	PZ-035_042611_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-15069-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-15069-1	PZ-035_042611_01	Cyanide	0.0047U mg/L	A	B

Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-15069-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-15069-1	PZ-035_042611_01	Cyanide	0.0047U mg/L	A	F

LDC #: 2566706
 SDG #: 280-15069-1
 Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET

Level IV

Date: 6/16/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: (Analyte) Cyanide (EPA SW846 Method 9012A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/26/11
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	SW	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/D
V	Duplicates	N	
VI.	Laboratory control samples	A	LCS/D
VII.	Sample result verification	A	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X	Field blanks	SW	EB = EB-SH-04-040711 (SDS: 280-14379-1) *FB = FB-041411-A (SPD: 280-14655-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

*ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: water

1	PZ-035_042611_01	11	DBL	21		31	
2	PZ-035_042611_01MS	12		22		32	
3	PZ-035_042611_01MSD	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Method: Inorganics (EPA Method See cover)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	/			
Cooler temperature criteria was met.	/			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	/			
Were the proper number of standards used?	/			
Were all initial calibration correlation coefficients > 0.995?	/			
Were all initial and continuing calibration verification %Rs within the 90-110% QC limits?	/			
Were titrant checks performed as required? (Level IV only)			/	
Were balance checks performed as required? (Level IV only)			/	
III. Blanks				
Was a method blank associated with every sample in this SDG?	/			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	/			
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	/			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.	/			
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of ≤ CRDL (≤ 2X CRDL for soil) was used for samples that were ≤ 5X the CRDL, including when only one of the duplicate sample values were < 5X the CRDL.	/			
V. Laboratory control samples				
Was an LCS analyzed for this SDG?	/			
Was an LCS analyzed per extraction batch?	/			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% (85-115% for Method 300.0) QC limits?	/			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			/	
Were the performance evaluation (PE) samples within the acceptance limits?			/	

Validation Area	Yes	No	NA	Findings/Comments
<i>VII. Sample Result Verification</i>				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were detection limits < RL?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>VIII. Overall assessment of data</i>				
Overall assessment of data was found to be acceptable.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>IX. Field duplicates</i>				
Field duplicate pairs were identified in this SDG.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Target analytes were detected in the field duplicates.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<i>X. Field blanks</i>				
Field blanks were identified in this SDG.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Target analytes were detected in the field blanks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

LDC #: 2566706

**Validation Findings Worksheet
Initial and Continuing Calibration Calculation Verification**

Page: 1 of 1

Reviewer: CR

2nd Reviewer: [Signature]

Method: Inorganics, Method See Cover

The correlation coefficient (r) for the calibration of CN was recalculated. Calibration date: 5/3/11

An initial or continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

%R = $\frac{\text{Found} \times 100}{\text{True}}$

Where, Found = concentration of each analyte measured in the analysis of the ICV or CCV solution

True = concentration of each analyte in the ICV or CCV source

Type of analysis	Analyte	Standard	Conc. (mg/l)	Area	Recalculated		Reported		Acceptable (Y/N)
					r or r ²	r or r ²	r or r ²	r or r ²	
Initial calibration	CN	s1	0	581	0.999875	0.999875			Y
		s2	10	7506					
		s3	20	13866					
		s4	50	32901					
		s5	100	67430					
		s6	200	140523					
		s7	400	284316					
Calibration verification		CCV	200	210.8		105	-		
Calibration verification		↓	↓	193.8		97	-		
Calibration verification									

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 256808

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Page: 1 of 1
Reviewer: QR
2nd Reviewer: W

METHOD: Inorganics, Method See cover

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

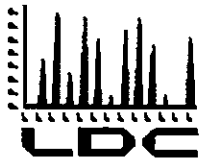
$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$
 Where, Found = concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, True = concentration of each analyte in the source.
Found = SSR (spiked sample result) - SR (sample result).

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$$RPD = \frac{|S-D|}{(S+D)/2} \times 100$$
 Where, S = Original sample concentration
D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	Found / S (units)	True / D (units)	Recalculated		Acceptable (Y/N)
					%R / RPD	Reported %R / RPD	
165	Laboratory control sample	CN	0.0991	0.1	99	99	Y
2	Matrix spike sample	↓	0.0865 (SSR-SR)	0.1	87	86	Y
2/3	Duplicate sample	↓	0.0916	0.0916	0	0	Y

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

June 21, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Level IV Data Validation

Dear Mr. Reiners,

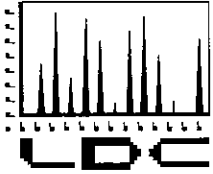
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on June 15, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25667:

<u>SDG #</u>	<u>Fraction</u>
280-14379-1	Semivolatiles, Cyanide
280-14432-1, 280-14967-1	Herbicides
280-14437-1/H1D120409, 280-14490-1/H1D130480, 280-14530-1/H1D140421, 280-14974-1/H1D260440, 280-15013-1/H1D270520, 280-15128-1/H1D300401	Dioxins/Dibenzofurans
280-14484-1/A1D120533	Chlorinated Pesticides, Herbicides, Wet Chemistry
280-14519-1, 280-14865-1	Herbicides, Cyanide
280-14655-1	Volatiles, Herbicides
280-14702-1	Semivolatiles, Herbicides
280-15011-1	Volatiles
280-15069-1, 280-15184-1	Cyanide
280-15126-1	Semivolatiles, Wet Chemistry

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010



- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV LDC #25667 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		SVOA (8270C)		Pest. (8081A)		Herbs (8151A)		Dioxins (8290)		CN- (9012A)		S= (4500 -S2 D)		W S		W S		W S		W S		W S		W S		W S					
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S		
Matrix: Water/Soil																																			
A	280-14379-1	06/15/11	06/22/11	-	-	3	0	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
B	280-14432-1	06/15/11	06/22/11	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
C	280-14437-1/ H1D120409	06/15/11	06/22/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
D	280-14484-1/ A1D120533	06/15/11	06/22/11	-	-	-	-	1	0	1	0	-	-	2	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
E	280-14490-1/ H1D130480	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
F	280-14519-1	06/15/11	06/22/11	-	-	-	-	-	-	1	0	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
G	280-14530-1/ H1D140421	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
H	280-14655-1	06/15/11	06/22/11	1	0	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
I	280-14702-1	06/15/11	06/22/11	-	-	1	0	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
J	280-14865-1	06/15/11	06/22/11	-	-	-	-	-	-	2	0	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
K	280-14967-1	06/15/11	06/22/11	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L	280-14974-1/ H1D260440	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M	280-15011-1	06/15/11	06/22/11	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N	280-15013-1/ H1D270520	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O	280-15069-1	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P	280-15126-1	06/15/11	06/22/11	-	-	1	0	-	-	-	-	-	-	3	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Q	280-15128-1 /H1D300401	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R	280-15184-1	06/15/11	06/22/11	-	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total				2	0	5	0	1	0	9	0	8	0	10	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 27, 2011

LDC Report Date: June 20, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level IV

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15126-1

Sample Identification

PZ-060_042711_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all compounds.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990 .

Average relative response factors (RRF) for all compounds were within method and validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs) and 25.0% for all other compounds with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
5/4/11 (B4689)	Diethylphthalate	31.4	All samples in SDG 280-15126-1	J (all detects) UJ (all non-detects)	A
5/4/11 (B4690)	4-Nitroquinoline-1-oxide	33.5	All samples in SDG 280-15126-1	J (all detects) UJ (all non-detects)	A

The percent differences (%D) of the second source calibration standard were less than or equal to 25.0% for all compounds with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
3/21/11 (B3885)	Methylmethanesulfonate 1,4-Phenylenediamine Methapyrilene	186.1 55.1 28.1	All samples in SDG 280-15126-1	J (all detects) UJ (all non-detects)	A

All of the continuing calibration relative response factors (RRF) were within method and validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-64644/1-A	4/28/11	Diethylphthalate	2.94 ug/L	All samples in SDG 280-15126-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
PZ-060_042711_01	Diethylphthalate	1.2 ug/L	10U ug/L

Sample EB-SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No semivolatile contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No semivolatile contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15126-1	All compounds reported below the RL.	J (all detects)	A

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable for samples on which a Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level V criteria.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-15126-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15126-1	PZ-060_042711_01	Diethylphthalate 4-Nitroquinoline-1-oxide	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A	Continuing calibration (%D) (C)
280-15126-1	PZ-060_042711_01	Methylmethanesulfonate 1,4-Phenylenediamine Methapyrilene	J (all detects) UJ (all non-detects)	A	Continuing calibration (ICV %D) (C)
280-15126-1	PZ-060_042711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-15126-1**

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-15126-1	PZ-060_042711_01	Diethylphthalate	10U ug/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-15126-1**

No Sample Data Qualified in this SDG

LDC #: 25667P1a

VALIDATION COMPLETENESS WORKSHEET

Date: 6/20/11

SDG #: 280-15126-1

Level IV

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JVG

Semi-volatiles

8270C

2nd Reviewer: [Signature]

METHOD: GC/MS-Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/27/11
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	2 RSD $\leq 30\%$ ✓
IV.	Continuing calibration/ICV	SW	COV/ICV $\leq 25\%$
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS 1D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	
XII.	Compound quantitation/CRQLs	A	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	A	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	FB = FB-041411-19 (280-14625-1) EB = EB-SH-04-040711 (280-14379-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	PZ-060_042711_01	11	ND 280-64644/A	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Method: Semivolatiles (EPA SW 846 Method 8270C)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	/			
Cooler temperature criteria was met.	/			
II. GC/MS Instrument performance check				
Were the DFTPP performance results reviewed and found to be within the specified criteria?	/			
Were all samples analyzed within the 12 hour clock criteria?	/			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	/			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	/			
Was a curve fit used for evaluation?	/			
Did the initial calibration meet the curve fit acceptance criteria of > 0.990?	/			
Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) > 0.05?	/			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	/			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	/			
Were all percent differences (%D) ≤ 25% and relative response factors (RRF) ≥ 0.05?		/		
V. Blanks				
Was a method blank associated with every sample in this SDG?	/			
Was a method blank analyzed for each matrix and concentration?	/			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	/			
VI. Surrogate spikes				
Were all surrogate %R within QC limits?	/			
If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?			/	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			/	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		/		
Was a MS/MSD analyzed every 20 samples of each matrix?		/		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			/	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	/			

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per extraction batch?	/			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	/			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		/		
Were the performance evaluation (PE) samples within the acceptance limits?			/	
X. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	/			
Were retention times within + 30 seconds from the associated calibration standard?	/			
XI. Target compound identification				
Were relative retention times (RRT's) within + 0.06 RRT units of the standard?	/			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	/			
Were chromatogram peaks verified and accounted for?	/			
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	/			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	/			
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			/	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			/	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?		/		
XIV. System performance				
System performance was found to be acceptable.	/			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	/			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.		/		
Target compounds were detected in the field duplicates.			/	
XVII. Field blanks				
Field blanks were identified in this SDG.	/			
Target compounds were detected in the field blanks.		/		

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis(2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT. Methyl methanesulfonate
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU. 1,4-Phenylenediamine
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV. Methapyrene
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW. 4-Nitroquinoline-1-oxide

Notes: * = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: GC/MS SVOA (EPA SW 846 Method 8270C)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is}) / (A_s)(C_x)$
 average RRF = sum of the RRFs/number of standards
 $\%RSD = 100 * (S/X)$
 A_x = Area of Compound
 C_x = Concentration of compound,
 S= Standard deviation of the RRFs,
 A_s = Area of associated internal standard
 C_{is} = Concentration of internal standard
 X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (50 std)	Recalculated RRF (50 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	4/13/2011	N-Nitrosodi-n-propylamine (IS1)	1.0151	1.0151	0.9536	0.9536	7.2	7.21
	MSS B		Naphthalene (IS2)	1.0366	1.0366	1.0034	1.0034	9.3	9.33
			Diethyl phthalate (IS3)	1.1931	1.1931	1.1380	1.1380	7.2	7.16
			Hexachlorobenzene (IS4)	0.1982	0.1982	0.1928	0.1928	5.2	5.15
			Bis(2-ethex) phthalate (IS5)	0.7552	0.7552	0.7022	0.7022	9.0	9.02
			Benzo(a)pyrene (IS6)	1.0751	1.0751	1.0197	1.0197	4.6	4.55

Inc IS/Cpd	Area cpd	Area IS
40/50	271542	214003
40/50	1106785	854165
40/50	725986	486795
40/50	197808	798317
40/50	749588	794008
40/50	1001972	745575

Conc	NDPA	Naphthalene	Diethyl phthal	Hexachlorob	Bis(2-ethex) ph	Benzo(a)py
4.00		1.1055	1.2204		0.5672	0.9988
10.00	1.0138	1.1119	1.1932	0.2058	0.6623	1.0114
20.00	1.0049	1.0567	1.2083	0.1999	0.7036	1.0819
50.00	1.0151	1.0366	1.1931	0.1982	0.7552	1.0751
80.00	0.9886	1.0134	1.1551	0.1940	0.7592	1.0492
120.00	0.9153	0.9441	1.0782	0.1906	0.7423	1.0081
160.00	0.8936	0.9013	1.0432	0.1842	0.7261	0.9884
200.00	0.8438	0.8579	1.0123	0.1766	0.7016	0.9445
X =	0.9536	1.0034	1.1380	0.1928	0.7022	1.0197
S =	0.0688	0.0936	0.0815	0.0099	0.0633	0.0464

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

METHOD: GC/MS SVOA (EPA SW 846 Method 8270C)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = $100 * (\text{ave. RRF} - \text{RRF}) / \text{ave. RRF}$
 $\text{RRF} = (\text{Ax}) / (\text{Cis}) / (\text{Ais}) / (\text{Cx})$

Where:

ave. RRF = initial calibration average RRF
 RRF = continuing calibration RRF
 Ax = Area of compound
 Cis = Concentration of compound
 Ais = Area of associated internal standard
 Cx = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (IS)	Average RRF (Initial RRF)	Reported (CC RRF)	Recalculated (CC RRF)	Reported %D	Recalculated %D
1	B4689	05/04/11	N-Nitrosodi-n-propylamine (IS1)	0.9536	1.0095	1.0095	5.9	5.9
			Naphthalene (IS2)	1.0034	1.0347	1.0347	3.1	3.1
			Diethyl phthalate (IS3)	1.1380	1.4956	1.4956	31.4	31.4
			Hexachlorobenzene (IS4)	0.1928	0.1969	0.1969	2.1	2.1
			Bis(2-ethex) phthalate (IS5)	0.7022	0.7861	0.7861	11.9	11.9
			Benzo(a)pyrene (IS6)	1.0197	1.0865	1.0865	6.6	6.6

Compound (IS)	Cis/Cx	Ax	Ais
N-Nitrosodi-n-propylamine (IS1)	40/80	310830	153959
Naphthalene (IS2)	40/80	1263748	610709
Diethyl phthalate (IS3)	40/80	1039113	347401
Hexachlorobenzene (IS4)	40/80	224489	570195
Bis(2-ethex) phthalate (IS5)	40/80	874846	556455
Benzo(a)pyrene (IS6)	40/80	1134270	521985

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270C)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: $SF/SS * 100$

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5	100	82.27	82	82	0
2-Fluorobiphenyl	↓	80.68	81	81	↓
Terphenyl-d14	✓	87.18	87	87	↓
Phenol-d5	150	122.39	82	82	↓
2-Fluorophenol	↓	111.67	74	74	↓
2,4,6-Tribromophenol	↓	138.87	93	93	↓
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: JW

2nd Reviewer: J

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = $100 * (SC/SA)$ Where: SSC = Spike concentration
 SA = Spike added

RPD = $|(LCSC - LCSDC) / 2(LCSC + LCSDC)|$ LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: LCS/D 280-0464/23-A

Compound	Spike Added (ug/L)		Spike Concentration (ug/L)		LCS		LCSD		LCS/LCSD		RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalc	Reported	Recalculated
	Phenol	80	80	63.8	68.9	80	80	86	86	86	86	8
N-Nitroso-di-n-propylamine			65.2	69.9	81	81	87	87	87	87	7	7
4-Chloro-3-methylphenol			68.6	74.9	86	86	94	86	94	94	9	9
Acenaphthene			64.9	71.9	81	81	90	81	90	90	10	10
Rectaethorophenol												
Pyrene			69.2	75.5	65.2	65.2	94	65.2	94	94	9	9

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 27, 2011

LDC Report Date: June 16, 2011

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Level IV

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15126-1

Sample Identification

RS-34_042711_1

PZ-060_042711_01

HAR-32_042711_01

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 9012A for Cyanide and Standard Method 4500-S2 D for Sulfide.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_SH-04_040711	4/7/11	Cyanide	0.0020 mg/L	PZ-060_042711_01

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No contaminant concentrations were found in this blank.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
PZ-060_042711_01	Cyanide	0.0035 mg/L	0.0035U mg/L

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All sample result verifications were acceptable.

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-15126-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-15126-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-15126-1	RS-34_042711_1 PZ-060_042711_01 HAR-32_042711_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-15126-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-15126-1	RS-34_042711_1	Cyanide	0.0038U mg/L	A	B
280-15126-1	PZ-060_042711_01	Cyanide	0.0035U mg/L	A	B
280-15126-1	HAR-32_042711_01	Cyanide	0.0047U mg/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-15126-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-15126-1	PZ-060_042711_01	Cyanide	0.0035U mg/L	A	F

LDC #: 25667P6
 SDG #: 280-15126-1
 Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level IV

Date: 6/16/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: (Analyte) Cyanide (EPA SW846 Method 9012A), Sulfide (SM4500-S2 D)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/27/11
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	SW	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/D
V	Duplicates	N	
VI.	Laboratory control samples	A	LCS/D
VII.	Sample result verification	A	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X	Field blanks	SW	EB=EB-SH-04_040711(280-14379-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

*ND = No compounds detected
 R = Rinsate
 FB = Field blank
 *FB = FB_041411-19 (280-14655-1)
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	RS-34_042711_1	11	PBSW	21		31	
2	PZ-060_042711_01	12		22		32	
3	HAR-32_042711_01	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Method: Inorganics (EPA Method See cover)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	/			
Cooler temperature criteria was met.	/			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	/			
Were the proper number of standards used?	/			
Were all initial calibration correlation coefficients > 0.995?	/			
Were all initial and continuing calibration verification %Rs within the 90-110% QC limits?	/			
Were titrant checks performed as required? (Level IV only)			/	
Were balance checks performed as required? (Level IV only)			/	
III. Blanks				
Was a method blank associated with every sample in this SDG?	/			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	/			
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	/			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.	/			
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of ≤ CRDL (≤ 2X CRDL for soil) was used for samples that were ≤ 5X the CRDL, including when only one of the duplicate sample values were < 5X the CRDL.	/			
V. Laboratory control samples				
Was an LCS analyzed for this SDG?	/			
Was an LCS analyzed per extraction batch?	/			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% (85-115% for Method 300.0) QC limits?	/			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		/	/	
Were the performance evaluation (PE) samples within the acceptance limits?		/	/	

Validation Area	Yes	No	NA	Findings/Comments
<i>VII. Sample Result Verification</i>				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	/			
Were detection limits < RL?	/			
<i>VIII. Overall assessment of data</i>				
Overall assessment of data was found to be acceptable.	/			
<i>IX. Field duplicates</i>				
Field duplicate pairs were identified in this SDG.			/	
Target analytes were detected in the field duplicates.			/	
<i>X. Field blanks</i>				
Field blanks were identified in this SDG.	/			
Target analytes were detected in the field blanks.				

LDC #: 25667.6

Validation Findings Worksheet
Initial and Continuing Calibration Calculation Verification

Page: 1 of 1

Reviewer: CR

2nd Reviewer: [Signature]

Method: Inorganics, Method See Cover

The correlation coefficient (r) for the calibration of CN was recalculated. Calibration date: 5/3/11

An initial or continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

$$\%R = \frac{\text{Found} \times 100}{\text{True}}$$

Where,

Found = concentration of each analyte measured in the analysis of the ICV or CCV solution

True

= concentration of each analyte in the ICV or CCV source

Type of analysis	Analyte	Standard	Conc. (mg/l)	Area	Recalculated		Reported		Acceptable (Y/N)
					r or r ²	r or r ²	r or r ²	r or r ²	
Initial calibration	CN	s1	0	581	0.999875	0.999875			Y
		s2	10	7506					
		s3	20	13866					
		s4	50	32901					
		s5	100	67430					
		s6	200	140523					
		s7	400	284316					
Calibration verification		CCV	200	184.4		92			
Calibration verification			↓	195.8		98			
Calibration verification	Sulfide	↓	0.5	0.47		94			

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
 Level IV Recalculation Worksheet

METHOD: Inorganics, Method SEE COVER

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

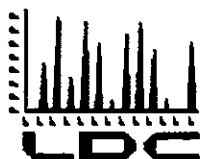
$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$
 Where, Found = concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, True = concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$$RPD = \frac{|S-D|}{(S+D)/2} \times 100$$
 Where, S = Original sample concentration
 D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	Found / S (units) <u>mg/L</u>	True / D (units) <u>mg/L</u>	Recalculated		Acceptable (Y/N)
					%R / RPD	%R / RPD	
<u>LS</u>	Laboratory control sample	<u>CN</u>	<u>0.0991</u>	<u>0.1</u>	<u>99</u>	<u>99</u>	<u>Y</u>
<u>RS34042711-1</u>	Matrix spike sample	<u>Silicic</u>	<u>0.341</u> (SSR-SR)	<u>0.480</u>	<u>71</u>	<u>71</u>	<u>Y</u>
<u>↓</u>	Duplicate sample	<u>↓</u>	<u>0.341</u>	<u>0.340</u>	<u>0</u>	<u>0</u>	<u>Y</u>

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

June 21, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Level IV Data Validation

Dear Mr. Reiners,

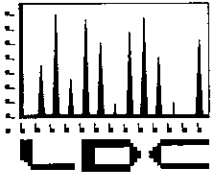
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on June 15, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25667:

<u>SDG #</u>	<u>Fraction</u>
280-14379-1	Semivolatiles, Cyanide
280-14432-1, 280-14967-1	Herbicides
280-14437-1/H1D120409, 280-14490-1/H1D130480, 280-14530-1/H1D140421, 280-14974-1/H1D260440, 280-15013-1/H1D270520, 280-15128-1/H1D300401	Dioxins/Dibenzofurans
280-14484-1/A1D120533	Chlorinated Pesticides, Herbicides, Wet Chemistry
280-14519-1, 280-14865-1	Herbicides, Cyanide
280-14655-1	Volatiles, Herbicides
280-14702-1	Semivolatiles, Herbicides
280-15011-1	Volatiles
280-15069-1, 280-15184-1	Cyanide
280-15126-1	Semivolatiles, Wet Chemistry

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010



- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 27, 2011

LDC Report Date: June 17, 2011

Matrix: Water

Parameters: Dioxins/Dibenzofurans

Validation Level: EPA Level IV

Laboratory: Test America Inc.

Sample Delivery Group (SDG): 280-15128-1/H1D300401

Sample Identification

RS-34_042711_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance was checked at the required daily frequency.

Retention time windows were established for all homologues.

The chromatographic resolution between 2,3,7,8-TCDD and the peaks representing any other unlabeled TCDD isomers was resolved with a valley of less than or equal to 25%.

The exact mass of 380.9760 of PFK was verified.

The static resolving power was at least 10,000 (10% valley definition).

III. Initial Calibration

A five point initial calibration was performed as required by the method.

Percent relative standard deviations (%RSD) were less than or equal to 20.0% for unlabeled compounds and less than or equal to 30.0% for labeled compounds.

The ion abundance ratios for all PCDDs and PCDFs were within validation criteria.

The minimum S/N ratio for each target compound was greater than or equal to 2.5 and greater than or equal to 10 for each recovery and internal standard compound.

IV. Routine Calibration (Continuing)

Routine calibration was performed at the required frequencies.

All of the routine calibration percent differences (%D) between the initial calibration RRF and the routine calibration RRF were less than or equal to 20.0% for unlabeled compounds and less than or equal to 30.0% for labeled compounds.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for unlabeled compounds and less than or equal to 30.0% for labeled compounds.

The ion abundance ratios for all PCDDs and PCDFs were within validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

All internal standard recoveries were within QC limits.

X. Target Compound Identifications

All target compound identifications were within validation criteria.

XI. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15128-1/H1D300401	All compounds reported below the RL.	J (all detects)	A

XII. System Performance

The system performance was acceptable.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-15128-1/H1D300401**

SDG	Sample	Compound	Flag	A or P	Reason
280-15128-1/H1D300401	RS-34_042711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-15128-1/H1D300401**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-15128-1/H1D300401**

No Sample Data Qualified in this SDG

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/27/11</u>
II.	HRGC/HRMS Instrument performance check	A	
III.	Initial calibration	A	<u>2% RSD ≤ 20 2 unlabeled ; ≤ 30 2 labeled</u>
IV.	Routine calibration/ICV	A	<u>CV/ICV ≤ 1</u> ↓
V.	Blanks	A	
VI.	Matrix spike/Matrix spike duplicates	N	
VII.	Laboratory control samples	A	<u>LCS/D</u>
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	A	
X.	Target compound identifications	A	
XI.	Compound quantitation and CRQLs	A	
XII.	System performance	A	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

1	RS-34_042711_01	11	11 22 057- MB	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Method: Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	/			
Cooler temperature criteria was met.	/			
II. GC/MS Instrument performance check				
Was PFK exact mass 380.9760 verified?	/			
Were the retention time windows established for all homologues?	/			
Was the chromatographic resolution between 2,3,7,8-TCDD and peaks representing any other unlabeled TCDD isomers < 25% ?	/			
Is the static resolving power at least 10,000 (10% valley definition)?	/			
Was the mass resolution adequately check with PFK?	/			
Was the presence of 1,2,8,9-TCDD and 1,3,4,6,8-PeCDF verified?	/			
III. Initial calibration				
Was the initial calibration performed at 5 concentration levels?	/			
Were all percent relative standard deviations (%RSD) ≤ 20% for unlabeled standards and < 30% for labeled standards?	/			
Did all calibration standards meet the Ion Abundance Ratio criteria?	/			
Was the signal to noise ratio for each target compound ≥ 2.5 and for each recovery and internal standard > 10?	/			
IV. Continuing calibration				
Was a routine calibration performed at the beginning and end of each 12 hour period?	/			
Were all percent differences (%D) ≤ 20% for unlabeled standards and ≤ 30% for labeled standards?	/			
Did all routine calibration standards meet the Ion Abundance Ratio criteria?	/			
V. Blanks				
Was a method blank associated with every sample in this SDG?	/			
Was a method blank performed for each matrix and concentration?	/			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet?		/		
VI. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		/		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?		/		
VII. Laboratory control samples				
Was an LCS analyzed for this SDG?	/			
Was an LCS analyzed per extraction batch?	/			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	/			

Validation Area	Yes	No	NA	Findings/Comments
VIII. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		/		
Were the performance evaluation (PE) samples within the acceptance limits?			/	
IX. Internal standards				
Were internal standard recoveries within the 40-135% criteria?	/			
Was the minimum S/N ratio of all internal standard peaks > 10?	/			
X. Target compound identification				
For 2,3,7,8 substituted congeners with associated labeled standards, were the retention times of the two quantitation peaks within -1 to 3 sec. of the RT of the labeled standard?	/			
For 2,3,7,8 substituted congeners without associated labeled standards, were the relative retention times of the two quantitation peaks within 0.005 time units of the RRT measured in the routine calibration?	/			
For non-2,3,7,8 substituted congeners, were the retention times of the two quantitation peaks within RT established in the performance check solution?	/			
Did compound spectra contain all characteristic ions listed in the table attached?	/			
Was the Ion Abundance Ratio for the two quantitation ions within criteria?	/			
Was the signal to noise ratio for each target compound and labeled standard \geq 2.5?	/			
Does the maximum intensity of each specified characteristic ion coincide within \pm 2 seconds (includes labeled standards)?	/			
For PCDF identification, was any signal ($S/N \geq 2.5$, at \pm seconds RT) detected in the corresponding PCDPE channel?	/			
Was an acceptable lock mass recorded and monitored?	/			
XI. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	/			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	/			
XII. System performance				
System performance was found to be acceptable.	/			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	/			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		/		
Target compounds were detected in the field duplicates.			/	
XV. Field blanks				
Field blanks were identified in this SDG.		/		
Target compounds were detected in the field blanks.			/	

LDC #: 2667 Q71

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
 Reviewer: JVG
 2nd Reviewer: [Signature]

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$$RRF = (A_x)(C_{is}) / (A_{is})(C_x)$$

average RRF = sum of the RRFs/number of standards

$$\%RSD = 100 * (S/X)$$

A_x = Area of Compound

C_x = Concentration of compound,

S = Standard deviation of the RRFs,

A_{is} = Area of associated internal standard

C_{is} = Concentration of internal standard

X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (0.5/2.5/5 std)	Recalculated RRF (0.5/2.5/5 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	6/30/2010	2,3,7,8-TCDF (13C-2,3,7,8-TCDF)	0.944	0.944	0.986	0.986	5.3	5.3
	M2A		2,3,7,8-TCDD (13C-2,3,7,8-TCDD)	0.897	0.897	1.021	1.021	9.2	9.3
			1,2,3,6,7,8-HxCDD (13C-1,2,3,6,7,8-HxCDD)	0.939	0.939	0.943	0.943	2.9	2.9
			1,2,3,4,6,7,8-HpCDD (13C-1,2,4,6,7,8-HpCDD)	1.096	1.096	1.037	1.037	4.2	4.2
			OCDD (13C-OCDD)	1.048	1.048	1.011	1.011	3.5	3.5

Cis/Cx	Area cpd	Area IS
100/.5	13459	2852888
100/.5	9289	2070083
100/2.5	40427	1721480
100/2.5	45039	1643630
100/5	83135	3172926

Conc	2,3,7,8-TCDF	2,3,7,8-TCDD	1,2,3,6,7,8-HxCDD	1,2,3,4,6,7,8-HpCDD	OCDD
0.5/2.5/5	0.944	0.897	0.939	1.096	1.048
2/10/20	1.075	1.160	0.989	1.073	1.050
10/50/100	0.965	1.029	0.934	1.009	0.983
40/200/400	0.961	0.991	0.940	1.003	0.982
200/1000/2000	0.984	1.026	0.915	1.006	0.991
X =	0.986	1.021	0.943	1.037	1.011
S =	0.0519	0.0945	0.0274	0.0438	0.0351

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

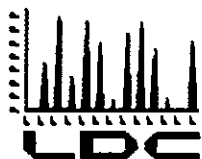
METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRF-s) and the continuing calibration RRF-s were recalculated for the compounds identified below using the following calculation:

% Difference = $100 * (\text{ave. RRF} - \text{RRF}) / \text{ave. RRF}$ ave. RRF = ICAL average RRF Cx = Concentration of compound
 RRF = $(Ax)(Cis) / (Ais)(Cx)$ RRF = CCV RRF Ais = Area of associated internal standard
 Ax = Area of compound Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (IS)	Average RRF (Initial RRF)	Reported (CC RRF)	Recalculated (CC RRF)	Reported %D	Recalculated %D
1	b110504s3	05/04/11 23:00	2,3,7,8-TCDF (13C-2,3,7,8-TCDF)	0.986	1.031	1.031	4.6	4.6
			2,3,7,8-TCDD (13C-2,3,7,8-TCDD)	1.021	1.062	1.062	4.1	4.1
			1,2,3,6,7,8-HxCDD (13C-1,2,3,6,7,8-HxCDD)	0.943	0.965	0.965	2.3	2.3
			1,2,3,4,6,7,8-HpCDD (13C-1,2,4,6,7,8-HpCDD)	1.037	0.993	0.993	4.3	4.3
			OCDD (13C-OCDD)	1.011	0.963	0.963	4.7	4.7
1	b110505s1	05/05/11 8:36	2,3,7,8-TCDF (13C-2,3,7,8-TCDF)	0.986	1.016	1.016	3.1	3.0
			2,3,7,8-TCDD (13C-2,3,7,8-TCDD)	1.021	1.089	1.089	6.7	6.7
			1,2,3,6,7,8-HxCDD (13C-1,2,3,6,7,8-HxCDD)	0.943	0.974	0.974	3.2	3.2
			1,2,3,4,6,7,8-HpCDD (13C-1,2,4,6,7,8-HpCDD)	1.037	0.980	0.980	5.5	5.5
			OCDD (13C-OCDD)	1.011	0.975	0.975	3.5	3.5

Compound (IS)	Concentration (IS/Cpd)	Area Cpd	Area IS	Area Cpd	Area IS
2,3,7,8-TCDF (13C-2,3,7,8-TCDF)	100/10	341752	3315851	274166	2698897
2,3,7,8-TCDD (13C-2,3,7,8-TCDD)	100/10	247754	2332544	205098	1833095
1,2,3,6,7,8-HxCDD (13C-1,2,3,6,7,8-HxCDD)	100/50	872593	1807992	758927	1558856
1,2,3,4,6,7,8-HpCDD (13C-1,2,4,6,7,8-HpCDD)	100/50	859523	1730691	692499	1413179
OCDD (13C-OCDD)	100/50	1536228	3188850	1193559	2447526



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

June 21, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Level IV Data Validation

Dear Mr. Reiners,

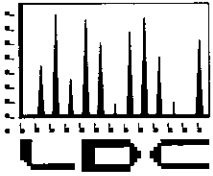
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on June 15, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25667:

<u>SDG #</u>	<u>Fraction</u>
280-14379-1	Semivolatiles, Cyanide
280-14432-1, 280-14967-1	Herbicides
280-14437-1/H1D120409, 280-14490-1/H1D130480, 280-14530-1/H1D140421, 280-14974-1/H1D260440, 280-15013-1/H1D270520, 280-15128-1/H1D300401	Dioxins/Dibenzofurans
280-14484-1/A1D120533	Chlorinated Pesticides, Herbicides, Wet Chemistry
280-14519-1, 280-14865-1	Herbicides, Cyanide
280-14655-1	Volatiles, Herbicides
280-14702-1	Semivolatiles, Herbicides
280-15011-1	Volatiles
280-15069-1, 280-15184-1	Cyanide
280-15126-1	Semivolatiles, Wet Chemistry

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010



- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 28, 2011

LDC Report Date: June 16, 2011

Matrix: Water

Parameters: Cyanide

Validation Level: Level IV

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15184-1

Sample Identification

HAR-30_042811_01
HAR-30_042811_01MS
HAR-30_042811_01MSD

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 9012A for Cyanide.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

All criteria for the initial calibration of each method were met.

III. Calibration Verification

Calibration verification frequency and analysis criteria were met.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No cyanide was found in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
PB (prep blank)	Cyanide	0.00294 mg/L	All samples in SDG 280-15184-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
HAR-30_042811_01	Cyanide	0.0060 mg/L	0.0060U mg/L

No field blanks were identified in this SDG.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All sample result verifications were acceptable.

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-15184-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-15184-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-15184-1	HAR-30_042811_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-15184-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-15184-1	HAR-30_042811_01	Cyanide	0.0060U mg/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-15184-1**

No Sample Data Qualified in this SDG

LDC #: 25667R6
 SDG #: 280-15184-1
 Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level IV

Date: 6/6/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: (Analyte) Cyanide (EPA SW846 Method 9012A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/28/11
Ia.	Initial calibration	D	
Ib.	Calibration verification	A	
III.	Blanks	SW	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/D
V	Duplicates	N	
VI.	Laboratory control samples	A	LCSP
VII.	Sample result verification	A	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: *wael*

1 ¹⁵	HAR-30_042811_01	11	<i>RBW</i>	21		31	
2	HAR-30_042811_01MS	12		22		32	
3	HAR-30_042811_01MSD	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Method: Inorganics (EPA Method See cover)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	/			
Cooler temperature criteria was met.	/			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	/			
Were the proper number of standards used?	/			
Were all initial calibration correlation coefficients > 0.995?	/			
Were all initial and continuing calibration verification %Rs within the 90-110% QC limits?	/			
Were titrant checks performed as required? (Level IV only)			/	
Were balance checks performed as required? (Level IV only)			/	
III. Blanks				
Was a method blank associated with every sample in this SDG?	/			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	/			
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	/			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.	/			
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of ≤ CRDL (≤ 2X CRDL for soil) was used for samples that were ≤ 5X the CRDL, including when only one of the duplicate sample values were < 5X the CRDL.	/			
V. Laboratory control samples				
Was an LCS analyzed for this SDG?	/			
Was an LCS analyzed per extraction batch?	/			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% (85-115% for Method 300.0) QC limits?	/			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		/	/	
Were the performance evaluation (PE) samples within the acceptance limits?			/	

Validation Area	Yes	No	NA	Findings/Comments
<i>VII. Sample Result Verification</i>				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were detection limits < RL?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>VIII. Overall assessment of data</i>				
Overall assessment of data was found to be acceptable.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>IX. Field duplicates</i>				
Field duplicate pairs were identified in this SDG.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Target analytes were detected in the field duplicates.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<i>X. Field blanks</i>				
Field blanks were identified in this SDG.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Target analytes were detected in the field blanks.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

LDC #: 256676

**Validation Findings Worksheet
Initial and Continuing Calibration Calculation Verification**

Page: 1 of 1

Reviewer: CR

2nd Reviewer: [Signature]

Method: Inorganics, Method See Cover

The correlation coefficient (r) for the calibration of CN was recalculated. Calibration date: 5/3/11

An initial or continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

%R = $\frac{\text{Found} \times 100}{\text{True}}$

Where, Found = concentration of each analyte measured in the analysis of the ICV or CCV solution

True = concentration of each analyte in the ICV or CCV source

Type of analysis	Analyte	Standard	Conc. (mg/l)	Area	Recalculated		Reported		Acceptable (Y/N)
					r or r ²	r or r ²	r or r ²	r or r ²	
Initial calibration	CN	s1	0	581	0.999875	0.999875			Y
		s2	10	7506					
		s3	20	13866					
		s4	50	32901					
		s5	100	67430					
		s6	200	140523					
		s7	400	284316					
Calibration verification		CCV	200	198.1	99	-			
Calibration verification		J	J	1916.2	96	-		Y	
Calibration verification									

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 25657R

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Page: 1 of 1
Reviewer: RR
2nd Reviewer: h

METHOD: Inorganics, Method See cover

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

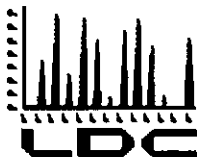
$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$
 Where, Found = concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$$RPD = \frac{|S-D|}{(S+D)/2} \times 100$$
 Where, S = Original sample concentration
D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	Found / S (units)	True / D (units)	Recalculated		Acceptable (Y/N)
					%R / RPD	%R / RPD	
155	Laboratory control sample	CN	0.0925	0.1	93	92	Y
2	Matrix spike sample	↓	0.869 (SSR-SR)	0.1	87	87	Y
2/3	Duplicate sample	↓	0.0929	0.0936	1	1	Y

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

June 24, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Level IV Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on June 17, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25675:

<u>SDG #</u>	<u>Fraction</u>
280-16572-1	Volatiles, 1,4-Dioxane, Semivolatiles, N-Nitrosodimethylamine, Diesel Range Organics, Hydrazine, Wet Chemistry
280-16572-3	Formaldehyde

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: June 3, 2011

LDC Report Date: June 20, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-16572-1

Sample Identification

WS-09A_060311_01
TB-WS-09A_060311
WS-09A_060311_01MS
WS-09A_060311_01MSD

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Sample TB-WS-09A_060311 was identified as a trip blank. No volatile contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
TB-WS-09A_060311	1,2-Dichloroethane-d4	73 (80-120)	All TCL compounds	J (all detects) UJ (all non-detects)	P

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) were not within QC limits. Since the sample concentration was greater than the spiked concentration, no data were qualified.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-16572-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Volatiles - Data Qualification Summary - SDG 280-16572-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-16572-1	TB-WS-09A_060311	All TCL compounds	J (all detects) UJ (all non-detects)	P	Surrogate spikes (%R) (S)
280-16572-1	WS-09A_060311_01 TB-WS-09A_060311	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-16572-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Volatiles - Field Blank Data Qualification Summary - SDG 280-16572-1**

No Sample Data Qualified in this SDG

LDC #: 25675A1a
 SDG #: 280-16572-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 6/20/11
 Page: 1 of 1
 Reviewer: JVL
 2nd Reviewer: [Signature]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 6/03/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	MD	TB = 2

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: *water*

1	WS-09A_060311_01	11	<i>MB 280-71287/5</i>	21	31
2	TB_WS-09A_060311	12		22	32
3	WS-09A_060311_01MS	13		23	33
4	WS-09A_060311_01MSD	14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

VOCs + IPA = All

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: June 3, 2011

LDC Report Date: June 23, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-16572-1

Sample Identification

WS-09A_060311_01
TB_WS-09A_060311
WS-09A_060311_01MS
WS-09A_060311_01MSD

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
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- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-dioxane was found in the method blanks.

Sample TB_WS-09A_060311 was identified as a trip blank. No 1,4-dioxane was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-16572-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-16572-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-16572-1	WS-09A_060311_01 TB_WS-09A_060311	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-16572-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-16572-1**

No Sample Data Qualified in this SDG

LDC #: 25675A1b

VALIDATION COMPLETENESS WORKSHEET

Date: 6/20/11

SDG #: 280-16572-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JMe

2nd Reviewer: JMe

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 6/03/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS / D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 2

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	WS-09A_060311_01	11	MB 280-70663/12	21		31	
2	TB WS-09A_060311	12		22		32	
3	WS-09A_060311_01MS	13		23		33	
4	WS-09A_060311_01MSD	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: June 3, 2011

LDC Report Date: June 20, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-16572-1

Sample Identification

WS-09A_060311_01
WS-09A_060311_01MS
WS-09A_060311_01MSD

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review. (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-16572-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-16572-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-16572-1	WS-09A_060311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-16572-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-16572-1**

No Sample Data Qualified in this SDG

LDC #: 25675A2a
 SDG #: 280-16572-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 6/20/11
 Page: 1 of 1
 Reviewer: JVC
 2nd Reviewer: [Signature]

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>6/03/11</u>
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: Water

1	WS-09A_060311_01	11	MB 280-71252 / 1-A	21	31
2	WS-09A_060311_01MS	12		22	32
3	WS-09A_060311_01MSD	13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Phthalates + NB =

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: June 3, 2011

LDC Report Date: June 20, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-16572-1

Sample Identification

WS-09A_060311_01
WS-09A_060311_01MS
WS-09A_060311_01MSD

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-nitrosodimethylamine was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-16572-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-16572-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-16572-1	WS-09A_060311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary – SDG 280-16572-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-16572-1**

No Sample Data Qualified in this SDG

LDC #: 25675A2b
 SDG #: 280-16572-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 6/20/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625^M_Q)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>6/03/11</u>
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: Water

1	WS-09A_060311_01	11	<u>MB 280-70623 /-A</u>	21		31	
2	WS-09A_060311_01MS	12		22		32	
3	WS-09A_060311_01MSD	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: June 3, 2011

LDC Report Date: June 17, 2011

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-16572-1

Sample Identification

WS-09A_060311_01
WS-09A_060311_01MS
WS-09A_060311_01MSD
WS-09A_060311_01DUP

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 350.1 for Ammonia as Nitrogen, EPA Method 300.0 for Fluoride and Nitrate, EPA Method 314.0 for Perchlorate, and EPA SW 846 Method 9040B for pH.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

Raw data were not reviewed for this SDG. The review was based on QC data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
PB (prep blank)	Ammonia as N	0.0865 mg/L	All samples in SDG 280-16572-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
WS-09A_060311_01	Ammonia as N	0.10 mg/L	0.10U mg/L

No field blanks were identified in this SDG.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-16572-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Wet Chemistry - Data Qualification Summary - SDG 280-16572-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-16572-1	WS-09A_060311_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-16572-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-16572-1	WS-09A_060311_01	Ammonia as N	0.10U mg/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
 Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-16572-1**

No Sample Data Qualified in this SDG

LDC #: 25675A6
 SDG #: 280-16572-1
 Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 6/17/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: (Analyte) Ammonia-N (EPA Method 350.1), Fluoride, Nitrate, (EPA Method 300.0), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>6/3/11</u>
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	SW	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/D
V	Duplicates	A	DUP
VI.	Laboratory control samples	A	LCs/D
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: Water

1	WS-09A_060311_01	11	FBW	21		31	
2	WS-09A_060311_01MS	12		22		32	
3	WS-09A_060311_01MSD	13		23		33	
4	WS-09A_060311_01DUP	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: June 3, 2011
LDC Report Date: June 20, 2011
Matrix: Water
Parameters: Total Petroleum Hydrocarbons as Extractables
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-16572-1

Sample Identification

WS-09A_060311_01
WS-09A_060311_01MS
WS-09A_060311_01MSD

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Total Petroleum Hydrocarbons (TPH) as Extractables.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as extractable contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
WS-09A_060311_01MS/MSD (WS-09A_060311_01)	TPH as extractables(C8-C11)	0 (10-115)	-	200 (≤30)	J (all detects) R (all non-detects)	A

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-16572-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Total Petroleum Hydrocarbons as Extractables - Data Qualification Summary - SDG
 280-16572-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-16572-1	WS-09A_060311_01	TPH as extractables (C8-C11)	J (all detects) R (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R)(RPD) (Q)
280-16572-1	WS-09A_060311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data Qualification
 Summary - SDG 280-16572-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Total Petroleum Hydrocarbons as Extractables - Field Blank Data Qualification
 Summary - SDG 280-16572-1**

No Sample Data Qualified in this SDG

LDC #: 25675A8
 SDG #: 280-16572-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 6/20/11
 Page: 1 of 1
 Reviewer: *SVK*
 2nd Reviewer: *[Signature]*

METHOD: GC TPH as Extractables (EPA SW846 Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 6/03/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	SW	
VII.	Laboratory control samples	A	LCS
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

1	WS-09A_060311_01	11	MB 280-70598/LA	21	31
2	WS-09A_060311_01MS	12		22	32
3	WS-09A_060311_01MSD	13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: June 3, 2011

LDC Report Date: June 17, 2011

Matrix: Water

Parameters: Hydrazines

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-16572-1

Sample Identification

WS-09A_060311_01

WS-09A_060311_01MS

WS-09A_060311_01MSD

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DVWC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazine contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound	Concentration	Associated Samples
MB 280-70983/25	6/7/11	Monomethyl hydrazine	0.340 ug/L	All samples in SDG 280-16572-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-16572-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-16572-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-16572-1	WS-09A_060311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-16572-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-16572-1**

No Sample Data Qualified in this SDG

LDC #: 25675A76

VALIDATION COMPLETENESS WORKSHEET

Date: 6/17/11

SDG #: 280-16572-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: [Signature]

2nd Reviewer: [Signature]

DV WC-0077

METHOD: HPLC Hydrazines (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 6/3/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	ASW	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	A	MS/D
VII.	Laboratory control samples	A	LCS/D
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks		

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: water

1	WS-09A_060311_01	11	MB 280-7083/25	21		31	
2	WS-09A_060311_01MS	12		22		32	
3	WS-09A_060311_01MSD	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

VALIDATION FINDINGS WORKSHEET

Blanks

Page: 1 of 1
Reviewer: CR
2nd Reviewer: W

METHOD: GC _____ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A

Was a method blank associated with every sample in this SDG?

Y N N/A

Was a method blank analyzed at least once every 12 hours for each matrix and concentration?

Y N N/A

Was there contamination in the method blanks? If yes, please see the qualifications below.

Blank extraction date: NA

Blank analysis date: 6/7/11

Conc. units: ug/L Associated Samples: All

Compound	Blank ID	No Qualifiers (ND)	Sample Identification			
	MB 280-70983/25					
Monomethyl Hydrazine	0.340					

All results were qualified using the criteria stated below except those circled.

Note: Common contaminants that were detected in samples within five times the associated method blank concentration were qualified as not detected, "U".



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

June 24, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Level IV Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on June 17, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25675:

<u>SDG #</u>	<u>Fraction</u>
280-16572-1	Volatiles, 1,4-Dioxane, Semivolatiles, N-Nitrosodimethylamine, Diesel Range Organics, Hydrazine, Wet Chemistry
280-16572-3	Formaldehyde

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: June 3, 2011

LDC Report Date: June 20, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-16572-3

Sample Identification

WS-09A_060311_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Compound	Total Days From Sample Extraction Until Analysis	Required Holding Time (in Days) From Sample Extraction Until Analysis	Flag	A or P
WS-09A_060311_01	Formaldehyde	6	3	J (all detects) UJ (all non-detects)	P

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound	Concentration	Associated Samples
MB-240-3621/117-A	6/10/11	Formaldehyde	0.0143 mg/L	All samples in SDG 280-16572-3

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
WS-09A_060311_01	Formaldehyde	0.031 mg/L	0.050U mg/L

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-16572-3	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Data Qualification Summary - SDG 280-16572-3**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-16572-3	WS-09A_060311_01	Formaldehyde	J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-16572-3	WS-09A_060311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-16572-3**

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-16572-3	WS-09A_060311_01	Formaldehyde	0.050U mg/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Field Blank Data Qualification Summary - SDG 280-16572-3**

No Sample Data Qualified in this SDG

LDC #: 25675B71

VALIDATION COMPLETENESS WORKSHEET

SDG #: 280-16572-3

Level V

Laboratory: Test America, Inc.

Date: 6/20/11

Page: 1 of 1

Reviewer: JVG

2nd Reviewer: [Signature]

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: 6/03/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	SW	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	A	LCS
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	WS-09A_060311_01	71	MB 240-3621/17-A	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

July 1, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Level IV Data Validation

Dear Mr. Reiners,

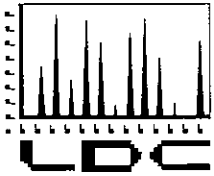
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on June 17, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25689:

<u>SDG #</u>	<u>Fraction</u>
280-14316-1	Semivolatiles, Perchlorate, Hydrazine
280-14379-1	Volatiles
280-14432-1/A1D090421 280-14758-1	Formaldehyde
280-14490-1/H1D130480 280-14572-1/H1D150456	Dioxins/Dibenzofurans
280-14528-1/8993	Gross Alpha & Beta, Strontium-90
280-14571-1	Semivolatiles, Polynuclear Aromatic Hydrocarbons
280-15184-1	Hydrazine

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008



- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV LDC #25689 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	SVOA (8270C)		PAH (8270-SIM)		CLO ₂ (6860)		Formaldehyde (8315)		Hydrazine (DVWC)		Dioxins (8290)		Gross α&β (900.0)		Sr-90 (905.0)		W S		W S		W S		W S		W S		W S								
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S					
Matrix: Water/Soil																																						
A	280-14316-1	06/17/11	07/11/11	2	0	-	-	1	0	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
B	280-14379-1	06/17/11	07/11/11	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
C	280-14432-1/ A1D090421	06/17/11	07/11/11	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
D	280-14490-1/ H1D130480	06/17/11	07/11/11	-	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
E	280-14528-1/ 8993	06/17/11	07/11/11	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
F	280-14571-1	06/17/11	07/11/11	1	0	3	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
G	280-14572-1/ H1D150456	06/17/11	07/11/11	-	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
H	280-14758-1	06/17/11	07/11/11	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
I	280-15184-1	06/17/11	07/11/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
				5	0	3	0	1	0	3	0	2	0	2	0	2	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	
Total				5	0	3	0	1	0	3	0	2	0	2	0	2	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	
APG																																						

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MSMSD, and DUPs

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 6, 2011
LDC Report Date: June 24, 2011
Matrix: Water
Parameters: Semivolatiles
Validation Level: Level IV
Laboratory: Test America, Inc.
Sample Delivery Group (SDG): 280-14316-1

Sample Identification

SH-11_040611_01
SH-11_040611_36

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all compounds.

Average relative response factors (RRF) for all compounds were within method and validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs) and 25.0% for all other compounds.

The percent differences (%D) of the second source calibration standard were less than or equal to 25.0% for all compounds with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
3/21/11	Methylmethanesulfonate 1,4-Phenylenediamine Methapyrilene	186.1 55.1 28.1	SH-11_040611_01 MB280_62102/1-A	J (all detects) UJ (all non-detects)	A

All of the continuing calibration relative response factors (RRF) were within method and validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB280-61375/1-A	4/8/11	Di-n-octylphthalate	1.75 ug/L	SH-11_040611_36

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
SH-11_040611_36	Di-n-octylphthalate	1.8 ug/L	9.7U ug/L

Samples EB_SH-11_040611 and EB_SH-04_040711 (from SDG 280-14379-1) were identified as equipment blanks. No semivolatle contaminants were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_SH-11_040611	4/6/11	Bis(2-ethylhexyl)phthalate	0.77 ug/L	All samples in SDG 280-14316-1

Samples FB_SH-11_040611_19 and FB_041411_19 (from SDG 280-14635-1) were identified as field blanks. No semivolatle contaminants were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_SH-11_040611_19	4/6/11	Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	0.64 ug/L 1.8 ug/L	All samples in SDG 280-14316-1

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
SH-11_040611_36	Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	0.92 ug/L 1.8 ug/L	9.7U ug/L 9.7U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14316-1	All compounds reported below the RL.	J (all detects)	A

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples SH-11_040611_01 and SH-11_040611_36 were identified as field duplicates. No semivolatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	SH-11_040611_01	SH-11_040611_36			
Bis(2-ethylhexyl) phthalate	9.9U	0.92	166 (≤35)	NQ	-
Diethyl phthalate	0.46	0.39	16 (≤35)	-	-
Di-n-octyl phthalate	9.9U	1.8	138 (≤35)	NQ	-

Samples SH-11_040611_01 and SH-11_040611_03 (from SDG IUD0921) were identified as split samples. No semivolatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	SH-11_040611_01	SH-11_040611_03			
Diethyl phthalate	0.46	9.6U	182 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-14316-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14316-1	SH-11_040611_01	Methylmethanesulfonate 1,4-Phenylenediamine Methapyrilene	J (all detects) UJ (all non-detects)	A	Continuing calibration (ICV %D) (C)
280-14316-1	SH-11_040611_01 SH-11_040611_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-14316-1

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-14316-1	SH-11_040611_36	Di-n-octylphthalate	9.7U ug/L	A	B

Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-14316-1

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-14316-1	SH-11_040611_36	Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	9.7U ug/L 9.7U ug/L	A	F

LDC #: 25689A2a

VALIDATION COMPLETENESS WORKSHEET

Date: 6/24/11

SDG #: 280-14316-1

Level IV

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: [Signature]

2nd Reviewer: [Signature]

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/06/11
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	% RSD ≤ 30 ✓
IV.	Continuing calibration/ICV	SW	CCV/ICV ≤ 25 ✓
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	RD-586_040611-01
VIII.	Laboratory control samples	A	LCS 1p
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	
XII.	Compound quantitation/CRQLs	A	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	A	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / split	SW	D = 1, 2 S = 1 + SH-11-040611-03 (IND0921)
XVII.	Field blanks	SW	EB = EB-SH-11-040611 (same 506) ; *EB-SH-04-040711 (280-14316-1) 379-1 FB = FB-SH-11-040611-19 ↓ ; *FB-040611-19 (280-14316-1) 379-1

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

*ND = No compounds detected
R = Rinstate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

WATER

1	² SH-11_040611_01	D	11	¹ MB 280-61275/1-A	21		31
2	¹ SH-11_040611_36	D	12	² MB 280-62102/1-A	22		32
3			13		23		33
4			14		24		34
5			15		25		35
6			16		26		36
7			17		27		37
8			18		28		38
9			19		29		39
10			20		30		40

1 - App 1x
2 - Phthalates only

Method: Semivolatiles (EPA SW 846 Method 8270C)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Cooler temperature criteria was met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
II. GC/MS Instrument performance check				
Were the DFTPP performance results reviewed and found to be within the specified criteria?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples analyzed within the 12 hour clock criteria?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was a curve fit used for evaluation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990 ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Were all percent relative standard deviations (%RSD) $\leq 30\%$ and relative response factors (RRF) > 0.05 ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all percent differences (%D) $\leq 25\%$ and relative response factors (RRF) ≥ 0.05 ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
V. Blanks				
Was a method blank associated with every sample in this SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was a method blank analyzed for each matrix and concentration?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VI. Surrogate spikes				
Were all surrogate %R within QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was a MS/MSD analyzed every 20 samples of each matrix?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per extraction batch?	/			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	/			
IX: Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		/		
Were the performance evaluation (PE) samples within the acceptance limits?			/	
X: Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	/			
Were retention times within + 30 seconds from the associated calibration standard?	/			
XI: Target compound identification				
Were relative retention times (RRT's) within + 0.06 RRT units of the standard?	/			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	/			
Were chromatogram peaks verified and accounted for?	/			
XII: Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	/			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	/			
XIII: Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			/	
Were relative intensities of the major ions within $\pm 20\%$ between the sample and the reference spectra?			/	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?		/		
XIV: System performance				
System performance was found to be acceptable.	/			
XV: Overall assessment of data				
Overall assessment of data was found to be acceptable.	/			
XVI: Field duplicates				
Field duplicate pairs were identified in this SDG.	/			
Target compounds were detected in the field duplicates.	/			
XVII: Field blanks				
Field blanks were identified in this SDG.	/			
Target compounds were detected in the field blanks.	/			

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis(2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT. <i>Methyl methanesulfonate</i>
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU. <i>1,4-Phenylenediamine</i>
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV. <i>Methapyrene</i>
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes: * = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GC MS SVOA (EPA SW 846 Method 8270C)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35)	Qualifications
	1	2	RPD	(Parent only)
Bis(2-ethylhexyl) phthalate	9.9U	0.92	166	NQ(<5XRL)
Diethyl phthalate	0.46	0.39	16	
Di-n-octyl phthalate	9.9U	1.8	138	NQ(<5XRL)

VALIDATION FINDINGS WORKSHEET
Field Split

METHOD: GC MS SVOA (EPA SW 846 Method 8270C)

- Y N NA Were field split pairs identified in this SDG?
- Y N NA Were target analytes detected in the field split pairs?

Compound	Concentration (ug/L)		(≤ 35)	Qualifications
	SH-11_040611_01	SH-11_040611_03	RPD	(Parent only)
Diethyl phthalate	0.46	9.6U	182	NQ (<5RL)

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: GC/MS SVOA (EPA SW 846 Method 8270C)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$$RRF = \frac{A_x(C_{is})}{(A_{is})(C_x)}$$

$$\text{average RRF} = \text{sum of the RRFs/number of standards}$$

$$\%RSD = 100 * (S/X)$$

$$A_x = \text{Area of Compound}$$

$$C_x = \text{Concentration of compound,}$$

$$S = \text{Standard deviation of the RRFs,}$$

$$A_{is} = \text{Area of associated internal standard}$$

$$C_{is} = \text{Concentration of internal standard}$$

$$X = \text{Mean of the RRFs}$$

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (50 std)	Recalculated RRF (50 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	4/13/2011	Phenol (IS1)	1.8636	1.8636	1.7761	1.7761	6.8	6.84
	MSS B		Naphthalene (IS2)	1.0366	1.0366	1.0034	1.0034	9.3	9.33
			Diethyl phthalate (IS3)	1.1931	1.1931	1.1380	1.1380	7.2	7.16
			Hexachlorobenzene (IS4)	0.1982	0.1982	0.1928	0.1928	5.2	5.15
			Bis(2-ethex) phthalate (IS5)	0.7552	0.7552	0.7022	0.7022	9.0	9.02
			Benzo(a)pyrene (IS6)	1.0751	1.0751	1.0197	1.0197	4.6	4.55

Cis/Cx	Ax	Ais
40/50	498522	214003
40/50	1106785	854165
40/50	725986	486795
40/50	197808	798317
40/50	749588	794008
40/50	1001972	745575

Conc	Phenol	Naphthalene	Diethyl phthal	Hexachlorob	Bis(2-ethex) ph	Benzo(a)py
4.00		1.1055	1.2204		0.5672	0.9988
10.00	1.9124	1.1119	1.1932	0.2058	0.6623	1.0114
20.00	1.8713	1.0567	1.2083	0.1999	0.7036	1.0819
50.00	1.8636	1.0366	1.1931	0.1982	0.7552	1.0751
80.00	1.8201	1.0134	1.1551	0.1940	0.7592	1.0492
120.00	1.7131	0.9441	1.0782	0.1906	0.7423	1.0081
160.00	1.6617	0.9013	1.0432	0.1842	0.7261	0.9884
200.00	1.5908	0.8579	1.0123	0.1766	0.7016	0.9445
X =	1.7761	1.0034	1.1380	0.1928	0.7022	1.0197
S =	0.1215	0.0936	0.0815	0.0099	0.0633	0.0464

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: GC/MS SVOA (EPA SW 846 Method 8270C)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is}) / (A_{is})(C_x)$
 average RRF = sum of the RRFs/number of standards
 $\%RSD = 100 * (S/X)$

A_x = Area of Compound
 A_{is} = Area of associated internal standard
 C_x = Concentration of compound,
 C_{is} = Concentration of internal standard
 S = Standard deviation of the RRFs,
 X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (50 std)	Recalculated RRF (50 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	3/28/2011	Diethyl phthalate (IS3)	1.1810	1.1810	1.1207	1.1207	5.4	5.41
	MSS K		Di-n-butyl phthalate (IS4)	1.0807	1.0807	1.0077	1.0077	5.5	5.46
			Bis(2-eh)phthalate (IS5)	0.5619	0.5619	0.5105	0.5105	9.9	9.90

Cis/Cx	Ax	Ais
40/50	754512	511107
40/50	1287253	952907
40/50	836491	1191041

Conc	Diethyl phthalate	D-n-butyl phth	Bis(2-eh) phth
4.00	1.1785	0.9263	0.4041
10.00	1.1855	1.0515	0.4850
20.00	1.1088	1.0266	0.4914
50.00	1.1810	1.0807	0.5619
80.00	1.1297	1.0462	0.5494
120.00	1.1026	1.0142	0.5397
160.00	1.0613	0.9736	0.5293
200.00	1.0183	0.9423	0.5236
X =	1.1207	1.0077	0.5106
S =	0.0606	0.0550	0.0505

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

METHOD: GC/MS SVOA (EPA SW 846 Method 8270C)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

Where:
 $\% \text{ Difference} = 100 * (\text{ave. RRF} - \text{RRF}) / \text{ave. RRF}$
 $\text{RRF} = (\text{Ax}) / (\text{Cis}) / (\text{Ais}) / (\text{Cx})$

Where:
 ave. RRF = initial calibration average RRF
 RRF = continuing calibration RRF
 Ax = Area of compound
 Cis = Concentration of internal standard
 Ais = Area of associated internal standard
 Cx = Concentration of compound

#	Standard ID	Calibration Date	Compound (IS)	Average RRF (Initial RRF)	Reported (CC RRF)	Recalculated (CC RRF)	Reported %D	Recalculated %D
1	B4333	04/18/11	Phenol (IS1)	1.7761	1.7681	1.7681	0.5	0.5
			Naphthalene (IS2)	1.0034	0.9981	0.9981	0.5	0.5
			Diethyl phthalate (IS3)	1.1380	1.1659	1.1659	2.5	2.5
			Hexachlorobenzene (IS4)	0.1928	0.1994	0.1994	3.4	3.4
			Bis(2-ethex) phthalate (IS5)	0.7022	0.7567	0.7567	7.8	7.8
			Benzo(a)pyrene (IS6)	1.0197	1.0450	1.0450	2.5	2.5

Compound (IS)	Cis/Cx	Ax	Ais
Phenol (IS1)	40/80	751006	212371
Naphthalene (IS2)	40/80	1671425	837287
Diethyl phthalate (IS3)	40/80	1103411	473210
Hexachlorobenzene (IS4)	40/80	315206	790340
Bis(2-ethex) phthalate (IS5)	40/80	1173604	775443
Benzo(a)pyrene (IS6)	40/80	1584348	758083

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270C)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: $SF/SS * 100$

Where: SF = Surrogate Found
 SS = Surrogate Spiked

Sample ID: # 2

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5	107	89.73	90	90	0
2-Fluorobiphenyl	↓	87.68	88	88	↓
Terphenyl-d14	↓	87.96	88	88	↓
Phenol-d5	150	108.84	73	73	↓
2-Fluorophenol	↓	100.59	67	67	↓
2,4,6-Tribromophenol	↓	120.80	81	81	↓
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID: _____

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID: _____

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 6, 2011

LDC Report Date: June 27, 2011

Matrix: Water

Parameters: Perchlorate

Validation Level: Level IV

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14316-1

Sample Identification

RD-48B_040611_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 314.0 for Perchlorate.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

All criteria for the initial calibration of each method were met.

III. Calibration Verification

Calibration verification frequency and analysis criteria were met.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No perchlorate was found in the initial, continuing and preparation blanks.

No field blanks were identified in this SDG.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All sample result verifications were acceptable.

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-14316-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Perchlorate - Data Qualification Summary - SDG 280-14316-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-14316-1	RD-48B_040611_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Perchlorate - Laboratory Blank Data Qualification Summary - SDG 280-14316-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Perchlorate - Field Blank Data Qualification Summary - SDG 280-14316-1**

No Sample Data Qualified in this SDG

LDC #: 25689A6

VALIDATION COMPLETENESS WORKSHEET

SDG #: 280-14316-1

Level IV

Laboratory: Test America, Inc.

Date: 8/27/11

Page: 1 of 1

Reviewer: [Signature]

2nd Reviewer: [Signature]

METHOD: (Analyte) Perchlorate (EPA Method 314.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/6/11
IIa.	Initial calibration	D	
IIb.	Calibration verification	A	
III.	Blanks	A	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/D
V	Duplicates	A	Dup
VI.	Laboratory control samples	A	LCS/D
VII.	Sample result verification	A	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

water

1	RD-48B_040611_01	11	ppm	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Method: Inorganics (EPA Method See cover)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	/			
Cooler temperature criteria was met.	/			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	/			
Were the proper number of standards used?	/			
Were all initial calibration correlation coefficients > 0.995?	/			
Were all initial and continuing calibration verification %Rs within the 90-110% QC limits?	/			
Were titrant checks performed as required? (Level IV only)			/	
Were balance checks performed as required? (Level IV only)			/	
III. Blanks				
Was a method blank associated with every sample in this SDG?	/			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		/		
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	/			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.	/			
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of ≤ CRDL (≤ 2X CRDL for soil) was used for samples that were ≤ 5X the CRDL, including when only one of the duplicate sample values were < 5X the CRDL.	/			
V. Laboratory control samples				
Was an LCS analyzed for this SDG?	/			
Was an LCS analyzed per extraction batch?	/			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% (85-115% for Method 300.0) QC limits?	/			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		/		
Were the performance evaluation (PE) samples within the acceptance limits?		/		

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	/			
Were detection limits < RL?	/			
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	/			
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.		/		
Target analytes were detected in the field duplicates.			/	
X. Field blanks				
Field blanks were identified in this SDG.		/	/	
Target analytes were detected in the field blanks.				

LDC #: 25689A6

Validation Findings Worksheet
Initial and Continuing Calibration Calculation Verification

Page: 1 of 1
Reviewer: [Signature]
2nd Reviewer: [Signature]

Method: Inorganics, Method 3140
The correlation coefficient (r) for the calibration of ClO₄ was recalculated. Calibration date: 4/4/11

An initial or continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

$\%R = \frac{\text{Found} \times 100}{\text{True}}$ Where, Found = concentration of each analyte measured in the analysis of the ICV or CCV solution
True = concentration of each analyte in the ICV or CCV source

Type of analysis	Analyte	Standard	Conc. (µg/L)	Area	Recalculated		Reported		Acceptable (Y/N)
					r	r ²	r	r ²	
Initial calibration	ClO ₄	s1	0.5	0.0031	0.999897	0.998857			Y
		s2	2.5	0.00995					
		s3	5	0.02					
		s4	10	0.04					
		s5	20	0.07					
		s6	40	0.13					
Calibration verification		ICV	20	19.505		-			
Calibration verification		CCV	30	29.073		-			
Calibration verification									

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

METHOD: Inorganics, Method SEE COVER

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100 \quad \text{Where, Found} = \text{concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found} = \text{SSR (spiked sample result)} - \text{SR (sample result).}$$

$$\text{True} = \text{concentration of each analyte in the source.}$$

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$$RPD = \frac{|S-D|}{(S+D)/2} \times 100 \quad \text{Where, S} = \text{Original sample concentration}$$

$$D = \text{Duplicate sample concentration}$$

Sample ID	Type of Analysis	Element	Found / S (units)	True / D (units)	Recalculated		Acceptable (Y/N)
					%R / RPD	%R / RPD	
LCS	Laboratory control sample	CO4	9.2	10	92	92	Y
RO56C-040611-01	Matrix spike sample		9.53 (SSR-SR)	10	95	95	Y
↑	Duplicate sample	ND	ND	ND	-	-	Y

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 6, 2011

LDC Report Date: June 24, 2011

Matrix: Water

Parameters: Hydrazines

Validation Level: Level IV

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14316-1

Sample Identification

RD-48A_040611_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DV-WC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for all compounds were less than or equal to 20.0% .

III. Calibration Verification

Continuing calibration was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 20.0% QC limits.

The percent difference (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazines were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were not within QC limits. Since there were no associated samples, no data were qualified.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

All target compound identifications were within validation criteria.

IX. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14316-1	All compounds reported below the RL.	J (all detects)	A

Since the curve results used by the laboratory could not be verified by recalculation using the raw data provided, all recalculated sample results for Hydrazine were slightly different than the results reported by the laboratory.

X. System Performance

The system performance was acceptable.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-14316-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14316-1	RD-48A_040611_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-14316-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-14316-1**

No Sample Data Qualified in this SDG

LDC #: 25689A76
 SDG #: 280-14316-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level IV

Date: 6/24/11
 Page: 1 of 1
 Reviewer: JK
 2nd Reviewer: L

METHOD: HPLC Hydrazines (EPA ^{DV-WC-0077} SW846 Method-8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4 / 06 / 11
II.	Initial calibration	A	rv
III.	Calibration verification/ICV	A	CCV/ICV ≤ 20%
IV.	Blanks	A	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	SW	280-14316-16 (NO associated sample, No val)
VII.	Laboratory control samples	A	1RS 1D
VIII.	Target compound identification	A	
IX.	Compound Quantitation and CRQLs	SW	
X.	System Performance	A	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

1	RD-48A 040611 01	11	MB 280-61963/25	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Method: GC HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical Holding Times				
All technical holding times were met.	<input checked="" type="checkbox"/>			
Cooler temperature criteria was met.	<input checked="" type="checkbox"/>			
II. Initial Calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?				
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) < 20%?				
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?				
Did the initial calibration meet the curve fit acceptance criteria?				
Were the RT windows properly established?				
III. Continuing Calibration				
What type of continuing calibration calculation was performed? %D or %R				
Was a continuing calibration analyzed daily?				
Were all percent differences (%D) < 20% or percent recoveries 80-120%?				
Were all the retention times within the acceptance windows?				
IV. Blanks				
Was a method blank associated with every sample in this SDG?	<input checked="" type="checkbox"/>			
Was a method blank analyzed for each matrix and concentration?	<input checked="" type="checkbox"/>			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.			<input checked="" type="checkbox"/>	
V. Surrogate Spikes				
Were all surrogate %R within the QC limits?			<input checked="" type="checkbox"/>	
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			<input checked="" type="checkbox"/>	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			<input checked="" type="checkbox"/>	
VI. Matrix Spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	<input checked="" type="checkbox"/>			
Was a MS/MSD analyzed every 20 samples of each matrix?	<input checked="" type="checkbox"/>			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			<input checked="" type="checkbox"/>	
VII. Laboratory Control Samples				
Was an LCS analyzed for this SDG?	<input checked="" type="checkbox"/>			
Was an LCS analyzed per extraction batch?	<input checked="" type="checkbox"/>			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	<input checked="" type="checkbox"/>			
VIII. Regional Quality Assurance and Quality Control				

Validation Area	Yes	No	NA	Findings/Comments
Were performance evaluation (PE) samples performed?		/		
Were the performance evaluation (PE) samples within the acceptance limits?			/	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	/			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	/			
XII. System performance				
System performance was found to be acceptable.	/			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	/			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		/	/	
Target compounds were detected in the field duplicates.				
XV. Field blanks				
Field blanks were identified in this SDG.		/	/	
Target compounds were detected in the field blanks.			/	

VALIDATION FINDINGS WORKSHEET
Compound Quantitation and Reported CRQLs

METHOD: GC HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Level IV/D Only

N N/A Were CRQLs adjusted for sample dilutions, dry weight factors, etc.?
 N N/A Did the reported results for detected target compounds agree within 10.0% of the recalculated results?

#	Compound Name	Finding	Associated Samples	Qualifications
	Hydrazine	Recalculated amount did not match the reported amount (Lab did not provide the curve for % weighting linear regression; calculations based on equal weighting linear regression)	1	Text
		Recalculated results are slightly different than the reported results due to the curve that was generated using the raw data.		

Comments: See sample calculation verification worksheet for recalculations

LDC#: 25689 A74

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [Signature]



Method: DV-WC-0077

Calibration Date	System	Compound	Standard	(Y) Area	(X) Concentration
4/12/2011	IC9	Hydrazine	1	0.0104	5
			2	0.0195	10
			3	0.0414	20
			4	0.1043	50
			5	0.1697	80
			6	0.2104	100

Regression Output	Calculated	Reported
Constant	-0.000985	-0.001000
R Squared	0.999908	0.999990
X Coefficient(s)	0.002119	0.002000
Correlation Coefficient	0.999954	
Coefficient of Determination (r^2)	0.999908	0.999990

LDC # 25689A76

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Page: 1 of 1
Reviewer: 
2nd Reviewer: 

METHOD: GC HPLC ✓

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration percent difference (%D) values were recalculated for the compounds identified below using the following calculation:

$$\text{Percent difference (\%D)} = 100 * (N - C) / N$$

Where: N = Initial Calibration Factor or Nominal Amount
C = Calibration Factor from Continuing Calibration Standard or Calculated Amount

#	Standard ID	Calibration Date	Compound	CCV Conc	Reported Conc	Recalculated Conc	Reported % D	Recalculated %D
1	ICV	4/12/2011	Hydrazine	25	25.170	25.241	NR	1.0

	$y = mx + b$			
ICV	y (Area)	m	b	Conc
Sample 1	0.0525	0.002119	-0.000985	25.241
	0.0013	0.002119	-0.000985	1.0783

METHOD: GC / HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = $100 * (SSC - SC) / SA$

Where
 SSC = Spiked sample concentration
 SC = Sample concentration
 SA = Spike added

MS = Matrix spike
 MSD = Matrix spike duplicate

RPD = $\frac{((SSCMS - SSCMSD) * 2) / (SSCMS + SSCMSD)}{100}$

MS/MSD samples: 280-14316-16 MS / MSD

Compound	Spike Added (Wg/L)		Sample Conc. (ug/L)	Spike Sample Concentration		Matrix spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD		MS	MSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)			---								
Diesel (8015)											
Benzene (8021B)											
Methane (Rsk-175)											
2,4-D (8151)											
Dinoseb (8151)											
Naphthalene (8310)											
Anthracene (8310)											
HMX (8330)											
2,4,6-Trinitrotoluene (8330)											
Hydrazine (DYN-C-0017)	20	20	0	21.0	12.7	105	105	64	64	49	49

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

METHOD: GC / HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = $100 * (SSC - SC) / SA$

Where SSC = Spiked sample concentration

SC = Sample concentration

SA = Spike added

RPD = $((SSCLCS - SSCLCSD) * 2) / (SSCLCS + SSCLCSD) * 100$

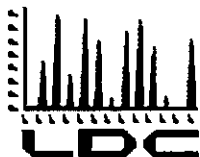
LCS = Laboratory Control Sample

LCS D = Laboratory Control Sample duplicate

LCS/LCSD samples: LCS/d 280-61963/21, 23

Compound	Spike Added (ug/L)		Spike Sample Concentration (ug/L)		LCS		LCS D		LCS D		LCS D	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)												
Diesel (8015)												
Benzene (8021B)												
Methane (RSK-175)												
2,4-D (8151)												
Dinoseb (8151)												
Naphthalene (8310)												
Anthracene (8310)												
HMX (8330)												
2,4,6-Trinitrotoluene (8330)												
Hydrazine (OV-WC-0077)	50	50	49.8	49.5	100	100	99	99			1	1

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

July 1, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Level IV Data Validation

Dear Mr. Reiners,

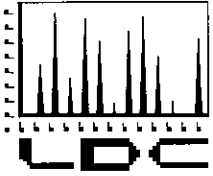
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on June 17, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25689:

<u>SDG #</u>	<u>Fraction</u>
280-14316-1	Semivolatiles, Perchlorate, Hydrazine
280-14379-1	Volatiles
280-14432-1/A1D090421 280-14758-1	Formaldehyde
280-14490-1/H1D130480 280-14572-1/H1D150456	Dioxins/Dibenzofurans
280-14528-1/8993	Gross Alpha & Beta, Strontium-90
280-14571-1	Semivolatiles, Polynuclear Aromatic Hydrocarbons
280-15184-1	Hydrazine

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008



- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV LDC #25689 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	SVOA (8270C)	PAH (8270-SIM)		CLO ₄ (6860)		Formaldehyde (8315)		Hydrazine (DVWC)		Dioxins (8290)		Gross α&β (900.0)		Sr-90 (905.0)		W S		W S		W S		W S		W S		W S				
					W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	
Matrix: Water/Soil																																	
A	280-14316-1	06/17/11	07/11/11	2	0	-	-	1	0	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
B	280-14379-1	06/17/11	07/11/11	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
C	280-14432-1/ A1D090421	06/17/11	07/11/11	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
D	280-14490-1/ H1D130480	06/17/11	07/11/11	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
E	280-14528-1/ 8993	06/17/11	07/11/11	-	-	-	-	-	-	-	-	-	-	-	1	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-		
F	280-14571-1	06/17/11	07/11/11	1	0	3	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
G	280-14572-1/ H1D150456	06/17/11	07/11/11	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
H	280-14758-1	06/17/11	07/11/11	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
I	280-15184-1	06/17/11	07/11/11	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
				5	0	3	0	1	0	3	0	2	0	2	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	18
Total				A/P/G																													

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 7, 2011

LDC Report Date: June 27, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level IV

Laboratory: Test America, Inc.

Sample Delivery Group (SDG): 280-14379-1

Sample Identification

RD-36A_040711_01

RD-36D_040711_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all compounds.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990 .

Average relative response factors (RRF) for all compounds were within method and validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs) and 25.0% for all other compounds.

The percent differences (%D) of the second source calibration standard were less than or equal to 25.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within method and validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14379-1	All compounds reported below the RL.	J (all detects)	A

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-14379-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14379-1	RD-36A_040711_01 RD-36D_040711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-14379-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-14379-1**

No Sample Data Qualified in this SDG

LDC #: 25689B2a
 SDG #: 280-14379-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level IV

Date: 6/24/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/07/11</u>
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	<u>? RSD ≤ 20% r_r</u>
IV.	Continuing calibration/ICV	A	<u>CV/ICV ≤ 25%</u>
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	<u>Client spec</u>
VIII.	Laboratory control samples	A	<u>LCS 1b</u>
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	
XII.	Compound quantitation/CRQLs	A	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	A	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

1	RD-36A_040711_01	<u>11</u>	<u>MB 280-61520/1-A</u>	21		31	
2	RD-36D_040711_01	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Phthalates + NB = 1, 2

Method: Semivolatiles (EPA SW 846 Method 8270C)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Cooler temperature criteria was met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
II. GC/MS Instrument performance check				
Were the DFTPP performance results reviewed and found to be within the specified criteria?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples analyzed within the 12 hour clock criteria?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was a curve fit used for evaluation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990 ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all percent relative standard deviations (%RSD) $\leq 30\%$ and relative response factors (RRF) > 0.05 ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all percent differences (%D) $\leq 25\%$ and relative response factors (RRF) ≥ 0.05 ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
V. Blanks				
Was a method blank associated with every sample in this SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was a method blank analyzed for each matrix and concentration?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
VI. Surrogate spikes				
Were all surrogate %R within QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Was a MS/MSD analyzed every 20 samples of each matrix?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per extraction batch?	/			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	/			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		/		
Were the performance evaluation (PE) samples within the acceptance limits?			/	
X. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	/			
Were retention times within + 30 seconds from the associated calibration standard?	/			
XI. Target compound identification				
Were relative retention times (RRT's) within + 0.06 RRT units of the standard?	/			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	/			
Were chromatogram peaks verified and accounted for?	/			
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	/			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	/			
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			/	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			/	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?			/	
XIV. System performance				
System performance was found to be acceptable.	/			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	/			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.		/		
Target compounds were detected in the field duplicates.			/	
XVII. Field blanks				
Field blanks were identified in this SDG.		/		
Target compounds were detected in the field blanks.			/	

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes: * = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: GC/MS SVOA (EPA SW 846 Method 8270C)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is}) / (A_{is})(C_x)$ A_x = Area of Compound A_{is} = Area of associated internal standard
 average RRF = sum of the RRFs/number of standards C_x = Concentration of compound, C_{is} = Concentration of internal standard
 %RSD = $100 * (S/X)$ S = Standard deviation of the RRFs, X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (50 std)	Recalculated RRF (50 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	4/13/2011	1,3-Dinitrobenzene (IS1)	1.6382	1.6382	1.5903	1.5903	6.9	6.93
	MSS B		Nitrobenzene (IS2)	0.3844	0.3844	0.3698	0.3698	4.0	3.95
			Diethyl phthalate (IS3)	1.1931	1.1931	1.1380	1.1380	7.2	7.16
			NR (IS4)						
			Bis(2-ethex) phthalate (IS5)	0.7552	0.7552	0.7022	0.7022	9.0	9.02
			NR (IS6)						

Cis/Cx	Ax	Ais
40/50	438234	214003
40/50	410479	854165
40/50	725986	486795
40/50		798317
40/50	749588	794008
40/50		745575

Conc	1,3-DNB	Nitrobenzene	Diethyl phthal	Bis(2-ethex) ph
4.00	1.6874		1.2204	0.5672
10.00	1.7109	0.3821	1.1932	0.6623
20.00	1.6753	0.3781	1.2083	0.7036
50.00	1.6382	0.3844	1.1931	0.7552
80.00	1.6140	0.3774	1.1551	0.7592
120.00	1.4967	0.3651	1.0782	0.7423
160.00	1.4876	0.3554	1.0432	0.7261
200.00	1.4124	0.3461	1.0123	0.7016
X =	1.5903	0.3698	1.1380	0.7022
S =	0.1102	0.0146	0.0815	0.0633
			#DIV/0!	#DIV/0!
			#DIV/0!	#DIV/0!

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270C)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: $SF/SS * 100$

Where: SF = Surrogate Found
 SS = Surrogate Spiked

Sample ID: # 1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5	100	67.39	67	67	0
2-Fluorobiphenyl	↓	62.41	62	62	↓
Terphenyl-d14	↓	85.39	85	85	↓
Phenol-d5	150	107.81	72	72	↓
2-Fluorophenol	↓	95.56	64	64	↓
2,4,6-Tribromophenol	↓	133.92	89	89	↓
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = $100 * (SC/SA)$ Where: SSC = Spike concentration
 SA = Spike added

RPD = $100 * \frac{LCSC - LCSDC}{LCSC + LCSDC}$ LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: LCS 10 280-61520/293-A

Compound	Spike Added (ug/L)		Spike Concentration (ug/L)		LCS		LCSD		Percent Recovery		Percent Recovery		RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Phenol	80.0	80.0	68.3	65.7	85	85	82	82	82	82	4	4	4	4
N-Nitroso-di-n-propylamine			68.8	65.2	86	86	82	82	82	82	5	5	5	5
4-Chloro-3-methylphenol			70.7	69.8	88	88	87	87	87	87	1	1	1	1
Acenaphthene			65.9	65.2	82	82	81	81	81	81	1	1	1	1
Pentachlorophenol														
Pyrene			69.9	71.2	87	87	89	89	89	89	2	2	2	2

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

July 1, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Level IV Data Validation

Dear Mr. Reiners,

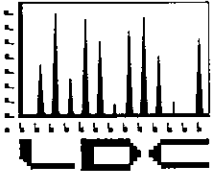
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on June 17, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25689:

<u>SDG #</u>	<u>Fraction</u>
280-14316-1	Semivolatiles, Perchlorate, Hydrazine
280-14379-1	Volatiles
280-14432-1/A1D090421 280-14758-1	Formaldehyde
280-14490-1/H1D130480 280-14572-1/H1D150456	Dioxins/Dibenzofurans
280-14528-1/8993	Gross Alpha & Beta, Strontium-90
280-14571-1	Semivolatiles, Polynuclear Aromatic Hydrocarbons
280-15184-1	Hydrazine

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008



- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 8, 2011

LDC Report Date: June 24, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: EPA Level IV

Laboratory: Test America, Inc.

Sample Delivery Group (SDG): 280-14432-1/A1D090421

Sample Identification

RD-39B_040811_01
RD-39B_040811_36

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for all compounds were less than or equal to 20.0% .

III. Continuing Calibration

Continuing calibration was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 20.0% QC limits.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

The laboratory has indicated that there were no matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

All target compound identifications were within validation criteria.

IX. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14432-1/A1D090421	All compounds reported below the RL.	J (all detects)	A

X. System Performance

The system performance was acceptable.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples RD-39B_040811_01 and RD-39B_040811_36 were identified as field duplicates. No formaldehyde was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	RD-39B_040811_01	RD-39B_040811_36			
Formaldehyde	20	18	11 (≤35)	-	-

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Data Qualification Summary - SDG 280-14432-1/A1D090421**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14432-1/A1D090421	RD-39B_040811_01 RD-39B_040811_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-14432-1/A1D090421**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Field Blank Data Qualification Summary - SDG 280-14432-1/A1D090421**

No Sample Data Qualified in this SDG

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/08/11
II.	Initial calibration	A	% RSD $\leq 20\%$
III.	Calibration verification/ICV	A	CV $\leq 20\%$
IV.	Blanks	A	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	A	RD-37_040811_01 (MS only)
VII.	Laboratory control samples	A	LES
VIII.	Target compound identification	A	
IX.	Compound Quantitation and CRQLs	A	
X.	System Performance	A	
XI.	Overall assessment of data	A	
XII.	Field duplicates	SW	b = 1.2
XIII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	RD-39B_040811_01	11	10 99 058 - MB	21		31	
2	RD-39B_040811_36	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Method: GC HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	/			
Cooler temperature criteria was met.	/			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	/			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) < 20%?	/			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?		/		
Did the initial calibration meet the curve fit acceptance criteria?			/	
Were the RT windows properly established?	/			
IV. Continuing calibration				
What type of continuing calibration calculation was performed? %D or %R	/			
Was a continuing calibration analyzed daily?	/			
Were all percent differences (%D) < 20% or percent recoveries 80-120%?	/			
Were all the retention times within the acceptance windows?	/			
V. Blanks				
Was a method blank associated with every sample in this SDG?	/			
Was a method blank analyzed for each matrix and concentration?	/			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		/		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?			/	
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			/	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			/	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	/			MS only
Was a MS/MSD analyzed every 20 samples of each matrix?	/			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	/			
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	/			
Was an LCS analyzed per extraction batch?	/			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	/			
IX. Regional Quality Assurance and Quality Control				

Validation Area	Yes	No	NA	Findings/Comments
Were performance evaluation (PE) samples performed?		/		
Were the performance evaluation (PE) samples within the acceptance limits?			/	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	/			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	/			
XII. System performance				
System performance was found to be acceptable.	/			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	/			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.	/			
Target compounds were detected in the field duplicates.	/			
XV. Field blanks				
Field blanks were identified in this SDG.		/		
Target compounds were detected in the field blanks.			/	

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

X N NA Were field duplicate pairs identified in this SDG?
X N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35%)	Qualifications
	RD-39B_040811_01	RD-39B_040811_36	RPD	(Parent Only)
Formaldehyde	20	18	11	

LDC #: 25689 C7

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [Signature]

METHOD: GC HPLC ✓

The calibration factors (CF), average CF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)
Where: A = Area of compound
C = Concentration of compound
S = Standard deviation of calibration factors
X = Mean of calibration factors

#	Standard ID	Calibration Date	Compound	Reported CF (5 std)	Recalculated CF (5 std)	Reported Average CF (Initial)	Recalculated Average CF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL A2HP12	1/19/2011	Formaldehyde	46474	46474	47420	47420	2.822	2.823


Conc	Formaldehyde
0.80	49455
1.00	47707
2.00	47473
5.00	46474
10.00	45990
X =	47420
S =	1338.490

Area
232372

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC # 25689 C7)

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: 

METHOD: GC HPLC

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration percent difference (%D) values were recalculated for the compounds identified below using the following calculation:

Percent difference (%D) = $100 * (N - C) / N$

Where:

N = Initial Calibration Factor or Nominal Amount

C = Calibration Factor from Continuing Calibration Standard or Calculated Amount

#	Standard ID	Calibration Date	Compound	CF	Reported Conc	Recalculated Conc	Reported % D	Recalculated %D
1	L11041106	4/11/2011	Formaldehyde	47419.8	50933	50933	7.4	7.4

Compound	Area	Conc
Formaldehyde	101866	2.0

CCV1

Matrix Spike/Matrix Spike Duplicates Results Verification

Reviewer: JVG

2nd Reviewer: [Signature]

METHOD: GC / HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = $100 * (SSC - SC) / SA$

SSC = Spiked sample concentration

MS = Matrix spike

SC = Sample concentration

MSD = Matrix spike duplicate

RPD = $\frac{((SSCMS - SSCMSD) * 2) / (SSCMS + SSCMSD)}{100}$

Where

MS/MSD samples: RD-37-6408 11-61 MS

Compound	Spike Added (ug/L)		Sample Conc. (ug/L)	Spike Sample Concentration (ug/L)		Matrix spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD		MS	MSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)											
Diesel (8015)											
Benzene (8021B)											
Methane (RSK-175)											
2,4-D (8151)											
Dinoseb (8151)											
Naphthalene (8310)											
Anthracene (8310)											
HMX (8330)											
2,4,6-Trinitrotoluene (8330)											
Formaldehyde (8315)	200	NA	27.4	229	NA	98	78				

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

METHOD: GC / HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

$\% \text{Recovery} = 100 * (\text{SSC} - \text{SC}) / \text{SA}$

Where SSC = Spiked sample concentration
 SA = Spike added

SC = Sample concentration

$\text{RPD} = ((\text{SSCLCS} - \text{SSCLCSD}) * 2) / (\text{SSCLCS} + \text{SSCLCSD}) * 100$

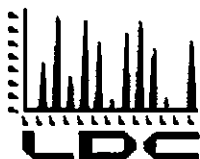
LCS = Laboratory Control Sample

LCS D = Laboratory Control Sample duplicate

LCS/LCSD samples: 1099058 LCS

Compound	Spike Added ($\mu\text{g/L}$)		Spike Sample Concentration ($\mu\text{g/L}$)		LCS		LCSD		LCS/LCSD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)										
Diesel (8015)										
Benzene (8021B)										
Methane (RSK-175)										
2,4-D (8151)										
Dinoseb (8151)										
Naphthalene (8310)										
Anthracene (8310)										
HMX (8330)										
2,4,6-Trinitrotoluene (8330)										
Formaldehyde (8315)	200	NA	190	NA	96	96				

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

July 1, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Level IV Data Validation

Dear Mr. Reiners,

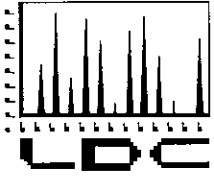
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on June 17, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25689:

<u>SDG #</u>	<u>Fraction</u>
280-14316-1	Semivolatiles, Perchlorate, Hydrazine
280-14379-1	Volatiles
280-14432-1/A1D090421 280-14758-1	Formaldehyde
280-14490-1/H1D130480 280-14572-1/H1D150456	Dioxins/Dibenzofurans
280-14528-1/8993	Gross Alpha & Beta, Strontium-90
280-14571-1	Semivolatiles, Polynuclear Aromatic Hydrocarbons
280-15184-1	Hydrazine

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008



- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV LDC #25689 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	SVOA (8270C)	PAH (8270-SIM)		ClO ₄ (6860)		Formaldehyde (8315)		Hydrazine (DVWC)		Dioxins (8290)		Gross α&β (900.0)		Sr-90 (905.0)		W		S		W		S						
					W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	
Matrix: Water/Soil																															
A	280-14316-1	06/17/11	07/11/11	2	0	-	-	1	0	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
B	280-14379-1	06/17/11	07/11/11	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
C	280-14432-1/ A1D090421	06/17/11	07/11/11	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
D	280-14490-1/ H1D130480	06/17/11	07/11/11	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
E	280-14528-1/ 8993	06/17/11	07/11/11	-	-	-	-	-	-	-	-	-	-	-	1	0	1	0	-	-	-	-	-	-	-	-	-	-	-		
F	280-14571-1	06/17/11	07/11/11	1	0	3	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
G	280-14572-1/ H1D150456	06/17/11	07/11/11	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
H	280-14758-1	06/17/11	07/11/11	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
I	280-15184-1	06/17/11	07/11/11	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
				5	0	3	0	1	0	3	0	2	0	2	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	18	
Total				A/P/G																											

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 11, 2011

LDC Report Date: June 27, 2011

Matrix: Water

Parameters: Dioxins/Dibenzofurans

Validation Level: EPA Level IV

Laboratory: Test America Inc.

Sample Delivery Group (SDG): 280-14490-1/H1D130480

Sample Identification

PZ-149_041111_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance was checked at the required daily frequency.

Retention time windows were established for all homologues.

The chromatographic resolution between 2,3,7,8-TCDD and the peaks representing any other unlabeled TCDD isomers was resolved with a valley of less than or equal to 25%.

The exact mass of 380.9760 of PFK was verified.

The static resolving power was at least 10,000 (10% valley definition).

III. Initial Calibration

A five point initial calibration was performed as required by the method.

Percent relative standard deviations (%RSD) were less than or equal to 20.0% for unlabeled compounds and less than or equal to 30.0% for labeled compounds.

The ion abundance ratios for all PCDDs and PCDFs were within validation criteria.

The minimum S/N ratio for each target compound was greater than or equal to 2.5 and greater than or equal to 10 for each recovery and internal standard compound.

IV. Routine Calibration (Continuing)

Routine calibration was performed at the required frequencies.

All of the routine calibration percent differences (%D) between the initial calibration RRF and the routine calibration RRF were less than or equal to 20.0% for unlabeled compounds and less than or equal to 30.0% for labeled compounds.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for unlabeled compounds and less than or equal to 30.0% for labeled compounds.

The ion abundance ratios for all PCDDs and PCDFs were within validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
1108103-MB	4/18/11	OCDD	36 pg/L	PZ-149_041111_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-149_041111_01	OCDD	27 pg/L	27U pg/L

Sample EB_PZ-149_041111 was identified as an equipment blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-149_041111	4/11/11	OCDD	3.1 pg/L	PZ-149_041111_01

Sample FB_041411_19 (from SDG 280-14659-1) was identified as a field blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-149_041111_01	OCDD	27 pg/L	27U pg/L

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. The percent recoveries (%R) were within the QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

All internal standard recoveries were within QC limits.

X. Target Compound Identifications

All target compound identifications were within validation criteria.

XI. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14490-1/H1D130480	All compounds reported below the RL.	J (all detects)	A

XII. System Performance

The system performance was acceptable.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-14490-1/H1D130480**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14490-1/H1D130480	PZ-149_041111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-14490-1/H1D130480**

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-14490-1/H1D130480	PZ-149_041111_01	OCDD	27U pg/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
 Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-14490-1/H1D130480**

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-14490-1/H1D130480	PZ-149_041111_01	OCDD	27U pg/L	A	F

LDC #: 25689D21 **VALIDATION COMPLETENESS WORKSHEET**

SDG #: 280-14490-1 / H1D130480

Level IV

Laboratory: Test America Inc.

Date: 6/24/11

Page: 1 of 1

Reviewer: *SM*

2nd Reviewer: *[Signature]*

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 6/11/11
II.	HRGC/HRMS Instrument performance check	A	
III.	Initial calibration	A	75 RSD ≤ 20 ? unlabeled = 30 ? labeled
IV.	Routine calibration/ICV	A	CV/ICV ≤ ↓ ↓
V.	Blanks	SW	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	A	LCS
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	A	
X.	Target compound identifications	A	
XI.	Compound quantitation and CRQLs	A	
XII.	System performance	A	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	SW	EB = EB-PZ-149-041111 (same SDG) *FB = FB-041411-19 (280-14659-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

*ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: *Water*

1	PZ-149_041111_01	71	1108103-MB	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Method: Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/MS Instrument performance check				
Was PFK exact mass 380.9760 verified?	✓			
Were the retention time windows established for all homologues?	✓			
Was the chromatographic resolution between 2,3,7,8-TCDD and peaks representing any other unlabeled TCDD isomers < 25% ?	✓			
Is the static resolving power at least 10,000 (10% valley definition)?	✓			
Was the mass resolution adequately check with PFK?	✓			
Was the presence of 1,2,8,9-TCDD and 1,3,4,6,8-PeCDF verified?	✓			
III. Initial calibration				
Was the initial calibration performed at 5 concentration levels?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20% for unlabeled standards and < 30% for labeled standards?	✓			
Did all calibration standards meet the Ion Abundance Ratio criteria?	✓			
Was the signal to noise ratio for each target compound ≥ 2.5 and for each recovery and internal standard > 10?	✓			
IV. Continuing calibration				
Was a routine calibration performed at the beginning and end of each 12 hour period?	✓			
Were all percent differences (%D) ≤ 20% for unlabeled standards and ≤ 30% for labeled standards?	✓			
Did all routine calibration standards meet the Ion Abundance Ratio criteria?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank performed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet?	✓			
VI. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			

Validation Area	Yes	No	NA	Findings/Comments
VIII. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		/		
Were the performance evaluation (PE) samples within the acceptance limits?			/	
IX. Internal standards				
Were internal standard recoveries within the 40-135% criteria?	/			
Was the minimum S/N ratio of all internal standard peaks > 10?	/			
X. Target compound identification				
For 2,3,7,8 substituted congeners with associated labeled standards, were the retention times of the two quantitation peaks within -1 to 3 sec. of the RT of the labeled standard?	/			
For 2,3,7,8 substituted congeners without associated labeled standards, were the relative retention times of the two quantitation peaks within 0.005 time units of the RRT measured in the routine calibration?	/			
For non-2,3,7,8 substituted congeners, were the retention times of the two quantitation peaks within RT established in the performance check solution?	/			
Did compound spectra contain all characteristic ions listed in the table attached?	/			
Was the Ion Abundance Ratio for the two quantitation ions within criteria?	/			
Was the signal to noise ratio for each target compound and labeled standard \geq 2.5?	/			
Does the maximum intensity of each specified characteristic ion coincide within \pm 2 seconds (includes labeled standards)?	/			
For PCDF identification, was any signal ($S/N \geq 2.5$, at \pm seconds RT) detected in the corresponding PCDF channel?	/			
Was an acceptable lock mass recorded and monitored?	/			
XI. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	/			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	/			
XII. System performance				
System performance was found to be acceptable.	/			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	/			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		/		
Target compounds were detected in the field duplicates.			/	
XV. Field blanks				
Field blanks were identified in this SDG.	/			
Target compounds were detected in the field blanks.	/			

LDC #: 25681 b21

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: JVG
2nd Reviewer:

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$$RRF = (A_x)(C_{is}) / (A_{is})(C_x)$$

average RRF = sum of the RRFs/number of standards

$$\%RSD = 100 * (S/X)$$

A_x = Area of Compound

C_x = Concentration of compound,

S = Standard deviation of the RRFs,

A_{is} = Area of associated internal standard

C_{is} = Concentration of internal standard

X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (0.5/2.5/5 std)	Recalculated RRF (0.5/2.5/5 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	6/30/2010	2,3,7,8-TCDF (13C-2,3,7,8-TCDF)	0.944	0.944	0.986	0.986	5.3	5.3
	M2A		2,3,7,8-TCDD (13C-2,3,7,8-TCDD)	0.897	0.897	1.021	1.021	9.2	9.3
			1,2,3,6,7,8-HxCDD (13C-1,2,3,6,7,8-HxCDD)	0.939	0.939	0.943	0.943	2.9	2.9
			1,2,3,4,6,7,8-HpCDD (13C-1,2,4,6,7,8-HpCDD)	1.096	1.096	1.037	1.037	4.2	4.2
			OCDF (13C-OCDF)	1.238	1.238	1.167	1.167	4.4	4.4

Cis/Cx	Area cpd	Area IS
100/5	13459	2852888
100/5	9289	2070083
100/2.5	40427	1721480
100/2.5	45039	1643630
100/5	98181	3172926

Conc	2,3,7,8-TCDF	2,3,7,8-TCDD	1,2,3,6,7,8-HxCDD	1,2,3,4,6,7,8-HpCDD	OCDF
0.5/2.5/5	0.944	0.897	0.939	1.096	1.238
2/10/20	1.075	1.160	0.989	1.073	1.184
10/50/100	0.965	1.029	0.934	1.009	1.120
40/200/400	0.961	0.991	0.940	1.003	1.115
200/1000/2000	0.984	1.026	0.915	1.006	1.180
X =	0.986	1.021	0.943	1.037	1.167
S =	0.0519	0.0945	0.0274	0.0438	0.0510

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
 Continuing Calibration Results Verification

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

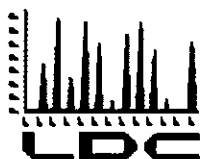
The percent difference (%D) of the initial calibration average Relative Response Factors (RRF-s) and the continuing calibration RRF-s were recalculated for the compounds identified below using the following calculation:

% Difference = $100 * (\text{ave. RRF} - \text{RRF}) / \text{ave. RRF}$
 $\text{RRF} = (\text{Ax})(\text{Cis}) / (\text{Ais})(\text{Cx})$

ave. RRF = ICAL average RRF
 RRF = CCV RRF
 Ax = Area of compound
 Cx = Concentration of compound
 Ais = Area of associated internal standard
 Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (IS)	Average RRF (Initial RRF)	Reported (CC RRF)	Recalculated (CC RRF)	Reported %D	Recalculated %D
1	b110421s4	04/21/11	2,3,7,8-TCDF (13C-2,3,7,8-TCDF)	0.986	0.993	0.993	0.8	0.7
			2,3,7,8-TCDD (13C-2,3,7,8-TCDD)	1.021	1.128	1.128	10.5	10.5
			1,2,3,6,7,8-HxCDD (13C-1,2,3,6,7,8-HxCDD)	0.943	0.968	0.968	2.6	2.6
			1,2,3,4,6,7,8-HpCDD (13C-1,2,4,6,7,8-HpCDD)	1.037	1.001	1.001	3.6	3.6
			OCDF (13C-OCDD)	1.167	1.075	1.075	7.9	7.9

Compound (IS)	Concentration (IS/Cpd)	Area Cpd	Area IS
2,3,7,8-TCDF (13C-2,3,7,8-TCDF)	100/10	370514	3731153
2,3,7,8-TCDD (13C-2,3,7,8-TCDD)	100/10	283679	2514639
1,2,3,6,7,8-HxCDD (13C-1,2,3,6,7,8-HxCDD)	100/50	1143811	2363843
1,2,3,4,6,7,8-HpCDD (13C-1,2,4,6,7,8-HpCDD)	100/50	938940	1876940
OCDF (13C-OCDD)	100/50	1822230	3389575



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

July 1, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Level IV Data Validation

Dear Mr. Reiners,

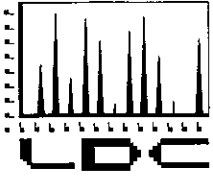
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on June 17, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25689:

<u>SDG #</u>	<u>Fraction</u>
280-14316-1	Semivolatiles, Perchlorate, Hydrazine
280-14379-1	Volatiles
280-14432-1/A1D090421 280-14758-1	Formaldehyde
280-14490-1/H1D130480 280-14572-1/H1D150456	Dioxins/Dibenzofurans
280-14528-1/8993	Gross Alpha & Beta, Strontium-90
280-14571-1	Semivolatiles, Polynuclear Aromatic Hydrocarbons
280-15184-1	Hydrazine

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008



- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 12, 2011
LDC Report Date: June 29, 2011
Matrix: Water
Parameters: Strontium-90
Validation Level: Level IV
Laboratory: Test America Laboratories, Inc./Eberline Services
Sample Delivery Group (SDG): 280-14528-1/8993

Sample Identification

RD-98_041211_01D
RD-98_041211_01DDUP

Samples appended with "D" were analyzed as dissolved

Introduction

This data review covers 2 water samples listed on the cover sheet. The analyses were per EPA Method 905.0 for Strontium-90.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the isotope was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

All criteria for the initial calibration were met.

Detector efficiency was determined and a self-absorption curve was generated for each radionuclide of interest.

III. Calibration Verification

Calibration verification and background determination were performed at the required frequencies. Results were within control limits.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field blanks were identified in this SDG.

V. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) analysis was not required by the method.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Carrier Recovery

All carrier recoveries were within validation criteria.

IX. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

X. Sample Result Verification

All sample result verifications were acceptable.

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-14528-1/8993	All isotopes reported below the RL and above the MDA.	J (all detects)	A

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Strontium-90 - Data Qualification Summary - SDG 280-14528-1/8993**

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-14528-1/8993	RD-98_041211_01D	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Strontium-90 - Laboratory Blank Data Qualification Summary - SDG 280-14528-1/8993**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Strontium-90 - Field Blank Data Qualification Summary - SDG 280-14528-1/8993**

No Sample Data Qualified in this SDG

LDC #: 25689E61

VALIDATION COMPLETENESS WORKSHEET

Date: 6/23/11

SDG #: 280-14528-1/8993

Level IV

Page: 4 of 4

Laboratory: Test America Laboratories, Inc./Eberline Analytical

Reviewer: [Signature]

2nd Reviewer: [Signature]

METHOD: Strontium-90 (EPA Method 905.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/12/11
II.	Initial calibration	D	
III.	Calibration verification	D	
IV.	Blanks	D	
V.	Matrix Spike/(Matrix Spike) Duplicates	A	Dup
VI.	Laboratory control samples	A	LES
VII.	Carrier recovery	A	
VIII.	Minimum detectable activity (MDA)	A	
IX.	Sample result verification	A	
X.	Overall assessment of data	A	
XI.	Field duplicates	A	
XII.	Field blanks	A	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

1	RD-98_041211_01D	11		21		31	
2	↓ DDUP	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: D = dissolved

Method: Radiochemistry (EPA Method See cover)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	/			
II. Calibration				
Were all instruments and detectors calibration as required?	/			
Were NIST traceable standards used for all calibrations?	/			
Was the check source identified by activity and radionuclide?	/			
Were check sources including background counts analyzed at the required frequency and within laboratory control limits?	/			
III. Blanks				
Were blank analyses performed as required?	/			
Were any activities detected in the blanks greater than the minimum detectable activity (MDA)? If yes, please see the Blanks validation completeness worksheet.		/		
IV. Matrix spikes and Duplicates				
Were a matrix spike (MS) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil/ Water.		/		
Were the MS percent recoveries (%R) within the QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.			/	
Was a duplicate sample analyzed at the required frequency of 5% in this SDG?	/			
Were all duplicate sample duplicate error ratios (DER) <1.42?	/			
V. Laboratory control samples				
Was an LCS analyzed per analytical batch?	/			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 75-125%	/			
VI. Sample Chemical/Carrier Recovery				
Was a tracer/carrier added to each sample?	/			
Were tracer/carrier recoveries within the QC limits?	/			CR R
VII. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		/		
Were the performance evaluation (PE) samples within the acceptance limits?			/	
VIII. Sample Result Verification				
Were activities adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	/			
Were the Minimum Detectable Activities (MDA) < RL?	/			

DC #: 25689E61

VALIDATION FINDINGS CHECKLIST

Page: 2 of 3
Reviewer: CR
2nd Reviewer: W

Validation Area	Yes	No	NA	Findings/Comments
IX. Overall assessment of data				
Overall assessment of data was found to be acceptable.	/			
X. Field duplicates				
Field duplicate pairs were identified in this SDG.		/		
Target analytes were detected in the field duplicates.			/	
XI. Field blanks				
Field blanks were identified in this SDG.		/	/	
Target analytes were detected in the field blanks.			/	

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

METHOD: Radiochemistry (Method: See Cover)

Percent recoveries (%R) for a laboratory control sample, a matrix spike and a matrix spike duplicate sample were recalculated using the following formula:

$$\%R = \frac{\text{Found} - \text{True}}{\text{True}} \times 100$$

Where, Found = activity of each analyte measured in the analysis of the sample.
 True = activity of each analyte in the source.

A matrix spike and matrix spike duplicate relative percent difference (RPD) was recalculated using the following formula:

$$RPD = \frac{|S-D|}{(S+D)/2} \times 100$$

Where, S = Original sample activity
 D = Duplicate sample activity

Sample ID	Type of Analysis	Analyte	Found/S (units)	pc/L TrueID (units)	Recalculated		Reported		Acceptable (Y/N)
					%R or RPD	%R or RPD	%R or RPD	%R or RPD	
CS	Laboratory control sample	S-90	18.5	17.4	106		106		Y
N	Matrix spike sample								
Z	Duplicate RPD	S-90	140	142	1		1		Y
K	Chemical recovery	Sr	13.63mg	18.3mg	74		74		Y

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 12, 2011
LDC Report Date: June 23, 2011
Matrix: Water
Parameters: Gross Beta
Validation Level: Level IV
Laboratory: Test America Laboratories, Inc./Eberline Analytical
Sample Delivery Group (SDG): 280-14528-1/8993

Sample Identification

RD-98_041211_01D
RD-98_041211_01DDUP

Samples appended with "D" were analyzed as dissolved

Introduction

This data review covers 2 water samples listed on the cover sheet. The analyses were per EPA Method 900.0 for Gross Beta Radioactivity.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

All criteria for the initial calibration were met.

Detector efficiency was determined and a self-absorption curve was generated for each radionuclide of interest.

III. Continuing Calibration

Calibration verification and background determination were performed at the required frequencies. Results were within laboratory control limits.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field blanks were identified in this SDG.

V. Matrix Spike/Matrix Spike Duplicates

A matrix spike (MS) analysis was not required by the method.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

IX. Sample Result Verification

All sample result verifications were acceptable.

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-14528-1/8993	All isotopes reported below the RL and above the MDA.	J (all detects)	A

X. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Gross Alpha & Beta - Data Qualification Summary - SDG 280-14528-1/8993**

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-14528-1/8993	RD-98_041211_01D	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Gross Alpha & Beta - Laboratory Blank Data Qualification Summary - SDG 280-14528-1/8993**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Gross Alpha & Beta - Field Blank Data Qualification Summary - SDG 280-14528-1/8993**

No Sample Data Qualified in this SDG

METHOD: Gross Alpha & Beta (EPA SW 846 Method 900.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>4/12/11</u>
II.	Initial calibration	A	
III.	Calibration verification	A	
IV.	Blanks	A	
V.	Matrix Spike/(Matrix Spike) Duplicates	A	<u>Dup</u>
VI.	Laboratory control samples	A	<u>LCS</u>
VII.	Minimum detectable activity (MDA)	A	
VIII.	Sample result verification	A	
IX.	Overall assessment of data	A	
X.	Field duplicates	A	
XI.	Field blanks	A	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: water

1	RD-98_041211_01D	11	<u>PBW</u>	21		31	
2	<u>↓ DDUP</u>	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: D = dissolved

Method: Radiochemistry (EPA Method See cover)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
II. Calibration				
Were all instruments and detectors calibration as required?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were NIST traceable standards used for all calibrations?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was the check source identified by activity and radionuclide?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were check sources including background counts analyzed at the required frequency and within laboratory control limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
III. Blanks				
Were blank analyses performed as required?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were any activities detected in the blanks greater than the minimum detectable activity (MDA)? If yes, please see the Blanks validation completeness worksheet.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
IV. Matrix spikes and Duplicates				
Were a matrix spike (MS) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil/ Water.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were the MS percent recoveries (%R) within the QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Was a duplicate sample analyzed at the required frequency of 5% in this SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all duplicate sample duplicate error ratios (DER) <1.42?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
V. Laboratory control samples				
Was an LCS analyzed per analytical batch?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 75-125%	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VI. Sample Chemical/Carrier Recovery				
Was a tracer/carrier added to each sample?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Were tracer/carrier recoveries within the QC limits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
VII. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were the performance evaluation (PE) samples within the acceptance limits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
VIII. Sample Result Verification				
Were activities adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were the Minimum Detectable Activities (MDA) < RL?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

DC #: 25689422

VALIDATION FINDINGS CHECKLIST

Page: 2 of 3
Reviewer: CR
2nd Reviewer: W

Validation Area	Yes	No	NA	Findings/Comments
IX. Overall assessment of data				
Overall assessment of data was found to be acceptable.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
X. Field duplicates				
Field duplicate pairs were identified in this SDG.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Target analytes were detected in the field duplicates.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
XI. Field blanks				
Field blanks were identified in this SDG.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Target analytes were detected in the field blanks.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

LDC #: ZSG88222

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Page: 1 of 1
Reviewer: GR
2nd Reviewer: WR

METHOD: Radiochemistry (Method: See Cover)

Percent recoveries (%R) for a laboratory control sample, a matrix spike and a matrix spike duplicate sample were recalculated using the following formula:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$

Where, Found = activity of each analyte measured in the analysis of the sample.
True = activity of each analyte in the source.

A matrix spike and matrix spike duplicate relative percent difference (RPD) was recalculated using the following formula:

$$RPD = \frac{|S-D|}{(S+D)/2} \times 100$$

Where, S = Original sample activity
D = Duplicate sample activity

Sample ID	Type of Analysis	Analyte	Found/S (units)	True/D (units)	Recalculated		Reported		Acceptable (Y/N)
					%R or RPD	%R or RPD	%R or RPD	%R or RPD	
LC5	Laboratory control sample	Grossβ	85.1	87.0	98	98			Y
N	Matrix spike sample								
2	Duplicate RPD	Grossβ	255	246	4	4			Y
N	Chemical recovery								

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 24689522

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: CR
2nd reviewer: W

METHOD: Radiochemistry (Method: see cover)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments?

Analyte results for GROSS B reported with a positive detect were recalculated and verified using the following equation:

Concentration =
$$\frac{\text{(cpm - background)}}{2.22 \times E \times SA \times Vol}$$

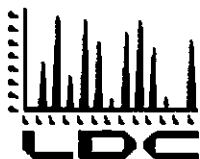
Recalculation:

$$1.02 \times \frac{\left(\frac{1268 \text{ cts}}{400 \text{ min}} - 1.181\right) - \left(\frac{78 \text{ cts}}{400 \text{ min}} - 0.027\right)(0.3)}{2.22(0.421)(0.1350 \text{ L})} = 245.9 \text{ d/L}$$

E = Counter Efficiency
 SA = Self-absorbance factor
 Vol = Volume of sample

#	Sample ID	Analyte	Reported Concentration (pCi/L)	Calculated Concentration (pCi/L)	Acceptable (Y/N)
	<u>1</u>	<u>GROSS B</u> GROSS OL	<u>246</u>	<u>246</u>	<u>Y</u>

Note: _____



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

July 1, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Level IV Data Validation

Dear Mr. Reiners,

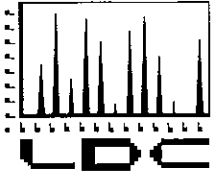
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on June 17, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25689:

<u>SDG #</u>	<u>Fraction</u>
280-14316-1	Semivolatiles, Perchlorate, Hydrazine
280-14379-1	Volatiles
280-14432-1/A1D090421 280-14758-1	Formaldehyde
280-14490-1/H1D130480 280-14572-1/H1D150456	Dioxins/Dibenzofurans
280-14528-1/8993	Gross Alpha & Beta, Strontium-90
280-14571-1	Semivolatiles, Polynuclear Aromatic Hydrocarbons
280-15184-1	Hydrazine

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008



- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV LDC #25689 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	SVOA (8270C)	PAH (8270-SIM)		CLO ₄ (8860)		Formaldehyde (8315)		Hydra-zine (DVWC)		Dioxins (8290)		Gross α&β (900.0)		Sr-90 (905.0)		W S		W S		W S		W S		W S		W S		W S						
					W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S			
Matrix: Water/Soil																																					
A	280-14316-1	06/17/11	07/11/11	2	0	-	-	1	0	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
B	280-14379-1	06/17/11	07/11/11	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
C	280-14432-1/ A1D090421	06/17/11	07/11/11	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
D	280-14490-1/ H1D130480	06/17/11	07/11/11	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
E	280-14528-1/ 8993	06/17/11	07/11/11	-	-	-	-	-	-	-	-	-	-	-	1	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
F	280-14571-1	06/17/11	07/11/11	1	0	3	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
G	280-14572-1/ H1D150456	06/17/11	07/11/11	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	280-14758-1	06/17/11	07/11/11	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I	280-15184-1	06/17/11	07/11/11	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total				5	0	3	0	1	0	3	0	2	0	2	0	1	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	18

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MSMSD, and DUPs

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 13, 2011

LDC Report Date: June 27, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level IV

Laboratory: Test America, Inc.

Sample Delivery Group (SDG): 280-14571-1

Sample Identification

RS-29_041311_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Average relative response factors (RRF) for all compounds were within method and validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs) and 25.0% for all other compounds.

The percent differences (%D) of the second source calibration standard were less than or equal to 25.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within method and validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14571-1	All compounds reported below the RL.	J (all detects)	A

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-14571-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14571-1	RS-29_041311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-14571-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-14571-1

No Sample Data Qualified in this SDG

LDC #: 25689F2a

VALIDATION COMPLETENESS WORKSHEET

Date: 6/24/11

SDG #: 280-14571-1

Level IV

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: *JG*2nd Reviewer: *JG*

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/13/11
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	2 RSD \leq 20 %
IV.	Continuing calibration/ICV	A	CCV/ICV \leq 25 %
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	
XII.	Compound quantitation/CRQLs	A	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	A	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinstate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	RS-29_041311_01	11	MB 280-62292/1-A	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Method: Semivolatiles (EPA SW 846 Method 8270C)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times:				
All technical holding times were met.	/			
Cooler temperature criteria was met.	/			
II. GC/MS Instrument performance check:				
Were the DFTPP performance results reviewed and found to be within the specified criteria?	/			
Were all samples analyzed within the 12 hour clock criteria?	/			
III. Initial calibration:				
Did the laboratory perform a 5 point calibration prior to sample analysis?	/			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	/			
Was a curve fit used for evaluation?	/			
Did the initial calibration meet the curve fit acceptance criteria of > 0.990?	/			
Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) > 0.05?	/			
IV. Continuing calibration:				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	/			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	/			
Were all percent differences (%D) ≤ 25% and relative response factors (RRF) ≥ 0.05?	/			
V. Blanks:				
Was a method blank associated with every sample in this SDG?	/			
Was a method blank analyzed for each matrix and concentration?	/			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		/		
VI. Surrogate spikes:				
Were all surrogate %R within QC limits?	/			
If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?			/	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?				
VII. Matrix spike/Matrix spike duplicates:				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		/		
Was a MS/MSD analyzed every 20 samples of each matrix?		/		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			/	
VIII. Laboratory control samples:				
Was an LCS analyzed for this SDG?	/			

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per extraction batch?	/			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	/			
IX: Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		/		
Were the performance evaluation (PE) samples within the acceptance limits?			/	
X: Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	/			
Were retention times within + 30 seconds from the associated calibration standard?	/			
XI: Target compound identification				
Were relative retention times (RRT's) within + 0.06 RRT units of the standard?	/			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	/			
Were chromatogram peaks verified and accounted for?	/			
XII: Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	/			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	/			
XIII: Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			/	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			/	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?		/		
XIV: System performance				
System performance was found to be acceptable.	/			
XV: Overall assessment of data				
Overall assessment of data was found to be acceptable.	/			
XVI: Field duplicates				
Field duplicate pairs were identified in this SDG.		/		
Target compounds were detected in the field duplicates.			/	
XVII: Field blanks				
Field blanks were identified in this SDG.		/		
Target compounds were detected in the field blanks.			/	

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: GC/MS SVOA (EPA SW 846 Method 8270C)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$$RRF = (A_x)(C_{is}) / (A_{is})(C_x)$$

average RRF = sum of the RRFs/number of standards
 %RSD = 100 * (S/X)

$$A_x = \text{Area of Compound}$$

$$C_x = \text{Concentration of compound,}$$

$$S = \text{Standard deviation of the RRFs,}$$

$$A_{is} = \text{Area of associated internal standard}$$

$$C_{is} = \text{Concentration of internal standard}$$

$$X = \text{Mean of the RRFs}$$

#	Standard ID	Calibration Date	Compound (Internal Standard)	Reported RRF (50 std)	Recalculated RRF (50 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	4/18/2011	Phenol (IS1)	1.6117	1.6117	1.6721	1.6721	7.1	7.08
	MSS D		Naphthalene (IS2)	1.0692	1.0692	1.0973	1.0973	11.1	11.14
			Diethyl phthalate (IS3)	1.4226	1.4226	1.4000	1.4000	13.9	13.93
			Phenanthrene (IS4)	1.1225	1.1225	1.1659	1.1659	13.4	13.40
			Bis(2-ethylhexyl)phthalate (IS5)	see r2 calculations					
			Benzo(a)pyrene (IS6)	see r2 calculations					

Inc IS/Cpd	Area cpd	Area IS
40/50	399482	198292
40/50	935321	699813
40/50	891247	501184
40/50	1244975	887315
40/50	916280	1241974
40/50	1780056	1121194

Conc	Phenol	Naphthalene	Diethyl phthalate	Phenanthrene	bis(2-eh)phtha	Benzo(a)pyrene
4.00		0.9574	1.0910	1.0392	r2	r2
10.00	1.4945	0.9768	1.2263	0.9549		
20.00	1.6276	0.9819	1.2545	1.0289		
50.00	1.6117	1.0692	1.4226	1.1225		
80.00	1.6418	1.1146	1.4524	1.1823		
120.00	1.6821	1.1756	1.4946	1.2932		
160.00	1.8277	1.2165	1.5948	1.3917		
200.00	1.8192	1.2863	1.6634	1.3144		
X =	1.6721	1.0973	1.4000	1.1659	#DIV/0!	#DIV/0!
S =	0.1183	0.1222	0.1951	0.1562	#DIV/0!	#DIV/0!

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC# 25689 A2a

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 2 of 3
Reviewer: AVB
2nd Reviewer: _____

METHOD: GCMS Semivolatiles (EPA SW 846 Method 8270C)

Parameter: bis(2-ethylhexyl) phthalate

Order of regression: Linear

Date	Column	Compound	Points	x area ratio	y conc ratio
18-Apr-11	VF-5MS	bis(2-ethylhexyl) phthalate	Point 1	0.031564199	0.100
			Point 2	0.112513461	0.250
			Point 3	0.246028008	0.500
			Point 4	0.737761016	1.250
			Point 5	1.222888614	2.000
			Point 6	1.920738295	3.000
			Point 7	2.627139483	4.000
			Point 8	3.434694436	5.000

RF
0.3156
0.4501
0.4921
0.5902
0.6114
0.6402
0.6568
0.6869
Ave 0.5554

Regression Output: Regression Output:		Reported WLR	
Constant	0.14004	b =	0.05580
Std Err of Y Est	0.04	r^2 =	0.99380
R Squared	0.99821		
No. of Observations	6.00		
Degrees of Freedom	4.00	m1 =	0.6386
X Coefficient(s)	0.68859		
Std Err of Coef.	0.01		

LDC # 2689 Azc

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 7 of 3
Reviewer: DL
2nd Reviewer: DL

METHOD: GCMS Semivolatiles (EPA SW 846 Method 8270C)

Parameter: Benzo(g,h,i)perylene

Order of regression: Linear

Date	Column	Compound	Points	x area ratio	y conc ratio
18-Apr-11	VF-5MS	Benzo(g,h,i)perylene	Point 1	0.08451	0.100
			Point 2	0.21921	0.250
			Point 3	0.44704	0.500
			Point 4	1.23731	1.250
			Point 5	2.06423	2.000
			Point 6	3.34053	3.000
			Point 7	4.74279	4.000
			Point 8	6.50965	5.000

RF
0.8451
0.8769
0.8941
0.9898
1.0321
1.1135
1.1857
1.3019
Ave 1.0299

Regression Output: Regression Output:		Reported WLR
Constant	0.20330	b = 0.06440
Std Err of Y Est	0.04	
R Squared	0.99097	r^2 = 0.99060
No. of Observations	6.00	
Degrees of Freedom	4.00	m1 = 1.2055
X Coefficient(s)	1.27660	
Std Err of Coef.	0.01	

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

METHOD: GC/MS SVOA (EPA SW 846 Method 8270C)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

Where:

$$\% \text{ Difference} = 100 * (\text{ave. RRF} - \text{RRF}) / \text{ave. RRF}$$

$$\text{RRF} = (\text{Ax}) / (\text{Cis}) / (\text{Ais}) / (\text{Cx})$$

ave. RRF = initial calibration average RRF
 RRF = continuing calibration RRF
 Ax = Area of compound
 Cis = Concentration of internal standard
 Ais = Area of associated internal standard
 Cx = Concentration of compound

#	Standard ID	Calibration Date	Compound (IS)	Average RRF (Initial RRF)	Reported (CC RRF)	Recalculated (CC RRF)	Reported %D	Recalculated %D
1	D3228	04/19/11	Phenol (IS1)	1.6721	1.6774	1.6774	0.3	0.3
			Naphthalene (IS2)	1.0973	1.1310	1.1310	3.1	3.1
			Diethyl phthalate (IS3)	1.4000	1.4451	1.4451	3.2	3.2
			Phenanthrene (IS4)	1.1659	1.1961	1.1961	2.6	2.6
			Bis(2-ethylhexyl)phthalate (IS5)	80.00	81.80	81.77	2.2	2.2
			Benzo(g,h,i)perylene (IS6)	80.00	70.20	70.17	12.3	12.3

Compound (IS)	Concentration (IS/Cpd)	Area Cpd	Area IS
Phenol (IS1)	40/80	592966	176751
Naphthalene (IS2)	40/80	1432431	633253
Diethyl phthalate (IS3)	40/80	1345289	465453
Phenanthrene (IS4)	40/80	2007641	839271
Bis(2-ethylhexyl)phthalate (IS5)	40/80	1472574	1159617
Benzo(g,h,i)perylene (IS6)	40/80	2028269	995630

m	b	Response Ratio	Conc
bis(2eh)phthalate	0.6386	1.26988	81.77
benzo(g,h,i)perylene	1.2055	2.03717	70.17
sample	0.6386	0.01679	3.28

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270C)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: $SF/SS * 100$

Where: SF = Surrogate Found
 SS = Surrogate Spiked

Sample ID: # 1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5	100	76.26	76	76	0
2-Fluorobiphenyl	↓	74.91	75	75	↓
Terphenyl-d14	↓	69.6	70	70	
Phenol-d5	150	107.01	71	71	
2-Fluorophenol	↓	99.36	66	66	
2,4,6-Tribromophenol	↓	112.02	75	75	
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID: _____

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID: _____

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: April 13, 2011
LDC Report Date: June 30, 2011
Matrix: Water
Parameters: Polynuclear Aromatic Hydrocarbons
Validation Level: Level IV
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-14571-1

Sample Identification

PZ-144_041311_01
PZ-144_041311_36
RS-29_041311_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per a modification of EPA SW 846 Method 8270C using Selected Ion Monitoring (SIM) for Polynuclear Aromatic Hydrocarbons.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all compounds.

Average relative response factors (RRF) for all compounds were within method and validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs) and 25.0% for all other compounds.

The percent differences (%D) of the second source calibration standard were less than or equal to 25.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within method and validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polynuclear aromatic hydrocarbons were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-62312/1-A	4/14/11	Di-n-octylphthalate	0.109 ug/L	All samples in SDG 280-14571-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
PZ-144_041311_01	Di-n-octylphthalate	0.18 ug/L	9.9U ug/L
PZ-144_041311_36	Di-n-octylphthalate	0.096 ug/L	11U ug/L
RS-29_041311_01	Di-n-octylphthalate	0.20 ug/L	9.6U ug/L

Sample EB_PZ-144-041311 was identified as an equipment blank. No polynuclear aromatic hydrocarbons were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-144_041311	4/13/11	Di-n-octylphthalate Di-n-butylphthalate	0.080 ug/L 0.017 ug/L	All samples in SDG 280-14571-1

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No polynuclear aromatic hydrocarbons were found in this blank.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-144_041311_01	Di-n-octylphthalate Di-n-butylphthalate	0.018 ug/L 0.060 ug/L	9.9U ug/L 9.9U ug/L
PZ-144_041311_36	Di-n-octylphthalate Di-n-butylphthalate	0.096 ug/L 0.043 ug/L	11U ug/L 11U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14571-1	All compounds reported below the RL.	J (all detects)	A

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples PZ-144_041311_01 and PZ-144_041311_36 were identified as field duplicates. No polynuclear aromatic hydrocarbons were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	PZ-144_041311_01	PZ-144_041311_36			
Chrysene	0.0036	11U	200 (≤35)	NQ	-
Bis(2-ethylhexyl) phthalate	0.17	0.44	89 (≤35)	NQ	-
Di-n-butyl phthalate	0.060	0.043	33 (≤35)	-	-
Diethyl phthalate	0.47	0.13	113 (≤35)	NQ	-
Di-n-octyl phthalate	0.18	0.096	61 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 2nd Qtr, 2011
Polynuclear Aromatic Hydrocarbons - Data Qualification Summary - SDG 280-14571-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14571-1	PZ-144_041311_01 PZ-144_041311_36 RS-29_041311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Polynuclear Aromatic Hydrocarbons - Laboratory Blank Data Qualification Summary - SDG 280-14571-1

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-14571-1	PZ-144_041311_01	Di-n-octylphthalate	9.9U ug/L	A	B
280-14571-1	PZ-144_041311_36	Di-n-octylphthalate	11U ug/L	A	B
280-14571-1	RS-29_041311_01	Di-n-octylphthalate	9.6U ug/L	A	B

Boeing SSFL GW 2nd Qtr, 2011
Polynuclear Aromatic Hydrocarbons - Field Blank Data Qualification Summary - SDG 280-14571-1

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-14571-1	PZ-144_041311_01	Di-n-octylphthalate Di-n-butylphthalate	9.9U ug/L 9.9U ug/L	A	F
280-14571-1	PZ-144_041311_36	Di-n-octylphthalate Di-n-butylphthalate	11U ug/L 11U ug/L	A	F

LDC #: 25689F2c

VALIDATION COMPLETENESS WORKSHEET

SDG #: 280-14571-1

Level IV

Laboratory: Test America, Inc.

Date: 6/24/11

Page: 1 of 1

Reviewer: *MB*

2nd Reviewer: *[Signature]*

METHOD: GC/MS Polynuclear Aromatic Hydrocarbons (EPA SW846 Method 8270C-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/13/11
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	% RSD ≤ 30 %
IV.	Continuing calibration/ICV	A	CCV/ICV ≤ 25 %
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS ✓
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	
XII.	Compound quantitation/CRQLs	A	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	A	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D = 1, 2
XVII.	Field blanks	SW	EB = EB-PZ-144-041311 (Same SDG) FB = FB-041411-19 (280-14655-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	PZ-144_041311_01	11	MB 280-14571-1-A	21		31
2	PZ-144_041311_36	12		22		32
3	RS-29_041311_01	13		23		33
4		14		24		34
5		15		25		35
6		16		26		36
7		17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

Method: Semivolatiles (EPA SW 846 Method 8270C)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/MS Instrument performance check				
Were the DFTPP performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Was a curve fit used for evaluation?		✓		
Did the initial calibration meet the curve fit acceptance criteria of > 0.990 ?			✓	
Were all percent relative standard deviations (%RSD) $\leq 30\%$ and relative response factors (RRF) > 0.05 ?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Were all percent differences (%D) $\leq 25\%$ and relative response factors (RRF) ≥ 0.05 ?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	✓			
VI. Surrogate spikes				
Were all surrogate %R within QC limits?	✓			
If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		✓		
Was a MS/MSD analyzed every 20 samples of each matrix?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per extraction batch?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
IX: Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were the performance evaluation (PE) samples within the acceptance limits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
X: Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were retention times within + 30 seconds from the associated calibration standard?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
XI: Target compound identification				
Were relative retention times (RRT's) within + 0.06 RRT units of the standard?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were chromatogram peaks verified and accounted for?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
XII: Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
XIII: Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
XIV: System performance				
System performance was found to be acceptable.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
XV: Overall assessment of data				
Overall assessment of data was found to be acceptable.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
XVI: Field duplicates				
Field duplicate pairs were identified in this SDG.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Target compounds were detected in the field duplicates.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
XVII: Field blanks				
Field blanks were identified in this SDG.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Target compounds were detected in the field blanks.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes: * = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GC MS SVOA (EPA SW 846 Method 8270C-SIM)
~~Y~~ ~~N~~ ~~NA~~ Were field duplicate pairs identified in this SDG?
~~Y~~ ~~N~~ ~~NA~~ Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(<35) RPD	Qualifications (Parent only)
	1	2		
Chrysene	0.0036	11U	200	NQ(<5XRL)
Bis(2-ethylhexyl) phthalate	0.17	0.44	89	NQ(<5XRL)
Di-n-butyl phthalate	0.060	0.043	33	
Diethyl phthalate	0.47	0.13	113	NQ(<5XRL)
Di-n-octyl phthalate	0.18	0.096	61	NQ(<5XRL)

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: GC/MS SVOA (EPA SW 846 Method 8270C-SIM)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$$RRF = (A_x)(C_{is}) / (A_{is})(C_x)$$

average RRF = sum of the RRFs/number of standards
 %RSD = $100 * (S/X)$

$$A_x = \text{Area of Compound}$$

$$C_x = \text{Concentration of compound,}$$

$$S = \text{Standard deviation of the RRFs,}$$

$$X = \text{Mean of the RRFs}$$

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (50 std)	Recalculated RRF (50 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	4/8/11	Naphthalene (IS1)	1.8913	1.8913	1.8677	1.8677	5.5	5.5
	MSS X4		Phenanthrene (IS2)	1.1084	1.1084	1.0633	1.0632	5.6	5.6
			Bis(2-ethylhexyl)phthalate (IS4)	0.8562	0.8562	0.7496	0.7496	8.9	8.9

Cis/Cx	Ax	Ais
600/600	274227	143409
600/600	230568	208024
600/1200	274168	160101

Conc	Naphthalene	Phenanthrene	Bis(2-ethex)ph
4.00	1.6581	1.0177	0.7217
10.00	1.8793	0.9500	0.6303
20.00	1.9853	1.0798	0.7084
50.00	1.8913	1.1084	0.8562
80.00	1.9325	1.1189	0.7752
120.00	1.8660	1.0977	0.7921
160.00	1.8614	1.0702	0.7419
200.00			0.7711
X =	1.8677	1.0632	0.7496
S =	0.1022	0.0599	0.0666

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

METHOD: GC/MS SVOA (EPA SW 846 Method 8270C-SIM)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

Where:
 % Difference = $100 * (\text{ave. RRF} - \text{RRF}) / \text{ave. RRF}$ Cx = Concentration of compound
 RRF = $(Ax)(Cis) / (Ais)(Cx)$ Ais = Area of associated internal standard
 ave. RRF = initial calibration average RRF Cis = Concentration of internal standard
 RRF = continuing calibration RRF

#	Standard ID	Calibration Date	Compound (IS)	Average RRF (Initial RRF)	Reported (CC RRF)	Recalculated (CC RRF)	Reported %D	Recalculated %D
1	x4_6193	4/21/11	Naphthalene (IS1)	1.868	1.869	1.869	0.0	0.0
			Phenanthrene (IS2)	1.063	1.155	1.155	8.6	8.6
			Bis(2-ethylhexyl)phthalate (IS3)	0.750	0.576	0.576	23.2	23.2

CCV1

Compound	Ax	Ais
Naphthalene (IS1)	177354	94912
Phenanthrene (IS2)	162992	141095
Bis(2-ethylhexyl)phthalate (IS3)	144212	125239

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270C)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: $SF/SS * 100$

Where: SF = Surrogate Found
 SS = Surrogate Spiked

Sample ID: #1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5	520	389.821	78	78	0
2-Fluorobiphenyl	↓	458.859	92	92	↓
Terphenyl-d14	↓	524.456	105	105	↓
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: JM

2nd Reviewer: LM

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = $100 * (SC/SA)$

Where: SSC = Spike concentration
SA = Spike added

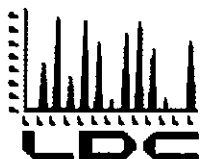
RPD = $100 * (LCSC - LCSDC) / ((LCSC + LCSDC) / 2)$

LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: LCS/d 280-62312/2, 3-A

Compound	Spike Added (ug/L)		Spike Concentration (ug/L)		LCS		LCSD		Percent Recovery		Percent Recovery		RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalc	Reported	Recalc	Reported	Recalc
Phenol														
N-Nitroso-di-n-propylamine														
4-Chloro-3-methylphenol														
Acenaphthene	0.100	0.100	0.749	0.702	83	83	78	78			7	7		
Pentachlorophenol	0.100	0.100	0.934	0.871	104	104	97	97			22	22		
Pyrene														

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

July 1, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Level IV Data Validation

Dear Mr. Reiners,

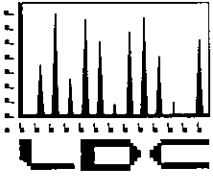
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on June 17, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25689:

<u>SDG #</u>	<u>Fraction</u>
280-14316-1	Semivolatiles, Perchlorate, Hydrazine
280-14379-1	Volatiles
280-14432-1/A1D090421 280-14758-1	Formaldehyde
280-14490-1/H1D130480 280-14572-1/H1D150456	Dioxins/Dibenzofurans
280-14528-1/8993	Gross Alpha & Beta, Strontium-90
280-14571-1	Semivolatiles, Polynuclear Aromatic Hydrocarbons
280-15184-1	Hydrazine

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008



- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

A handwritten signature in black ink that reads 'Pei Geng' in a cursive style.

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV LDC #25689 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	SVOA (8270C)		PAH (8270-SIM)		CLO ₄ (6860)		Formaldehyde (8315)		Hydrazine (DVWC)		Dioxins (8290)		Gross α&β (900.0)		Sr-90 (905.0)		W S		W S		W S		W S		W S				
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	
Matrix: Water/Soil																																
A	280-14316-1	06/17/11	07/11/11	2	0	-	-	1	0	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
B	280-14379-1	06/17/11	07/11/11	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
C	280-14432-1/ A1D090421	06/17/11	07/11/11	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
D	280-14490-1/ H1D130480	06/17/11	07/11/11	-	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
E	280-14528-1/ 8993	06/17/11	07/11/11	-	-	-	-	-	-	-	-	-	-	-	-	1	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	
F	280-14571-1	06/17/11	07/11/11	1	0	3	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
G	280-14572-1/ H1D150456	06/17/11	07/11/11	-	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	280-14758-1	06/17/11	07/11/11	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I	280-15184-1	06/17/11	07/11/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total				5	0	3	0	1	0	3	0	2	0	2	0	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	18
A/P/G																																

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 13, 2011

LDC Report Date: June 27, 2011

Matrix: Water

Parameters: Dioxins/Dibenzofurans

Validation Level: EPA Level IV

Laboratory: Test America Inc.

Sample Delivery Group (SDG): 280-14572-1/H1D150456

Sample Identification

PZ-144_041311_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance was checked at the required daily frequency.

Retention time windows were established for all homologues.

The chromatographic resolution between 2,3,7,8-TCDD and the peaks representing any other unlabeled TCDD isomers was resolved with a valley of less than or equal to 25%.

The exact mass of 380.9760 of PFK was verified.

The static resolving power was at least 10,000 (10% valley definition).

III. Initial Calibration

A five point initial calibration was performed as required by the method.

Percent relative standard deviations (%RSD) were less than or equal to 20.0% for unlabeled compounds and less than or equal to 30.0% for labeled compounds.

The ion abundance ratios for all PCDDs and PCDFs were within validation criteria.

The minimum S/N ratio for each target compound was greater than or equal to 2.5 and greater than or equal to 10 for each recovery and internal standard compound.

IV. Routine Calibration (Continuing)

Routine calibration was performed at the required frequencies.

All of the routine calibration percent differences (%D) between the initial calibration RRF and the routine calibration RRF were less than or equal to 20.0% for unlabeled compounds and less than or equal to 30.0% for labeled compounds.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for unlabeled compounds and less than or equal to 30.0% for labeled compounds.

The ion abundance ratios for all PCDDs and PCDFs were within validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
1109204-MB	4/19/11	1,2,3,4,6,7,8-HpCDD OCDD 1,2,3,6,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF OCDF	3.1 pg/L 24 pg/L 0.97 pg/L 1.8 pg/L 16 pg/L	PZ-144_041311_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-144_041311_01	OCDD 1,2,3,4,6,7,8-HpCDF OCDF	7.3 pg/L 1.1 pg/L 4.3 pg/L	7.3U pg/L 1.1U pg/L 4.3U pg/L

Sample EB_PZ-149_041311 was identified as an equipment blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14659-1) was identified as a field blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. The percent recoveries (%R) were within the QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

All internal standard recoveries were within QC limits.

X. Target Compound Identifications

All target compound identifications were within validation criteria.

XI. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14572-1/H1D150456	All compounds reported below the RL.	J (all detects)	A

XII. System Performance

The system performance was acceptable.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

Samples PZ_144_041311_36 and PZ-144_041311_01 were identified as field duplicates. No polychlorinated dioxins/dibenzofurans were detected in any of the samples with the following exceptions:

Compound	Concentration (pg/L)		RPD (Limits)	Flags	A or P
	PZ-144_041311_01	PZ-144_041311_36			
OCDD	7.3	4.9	39 (≤35)	NQ	-
1,2,3,4,6,7,8-HpCDF	1.1	0.97U	13 (≤35)	-	-
1,2,3,4,7,8,9-HpCDF	1.9	1.4U	30 (≤35)	-	-
OCDF	4.3	2.8U	42 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-14572-1/H1D150456**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14572-1/H1D150456	PZ-144_041311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-14572-1/H1D150456**

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-14572-1/H1D150456	PZ-144_041311_01	OCDD 1,2,3,4,6,7,8-HpCDF OCDF	7.3U pg/L 1.1U pg/L 4.3U pg/L	A	B

**Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-14572-1/H1D150456**

No Sample Data Qualified in this SDG

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/13/11
II.	HRGC/HRMS Instrument performance check	A	
III.	Initial calibration	A	2 RSD < 20 % unlabeled < 30 % labeled
IV.	Routine calibration/ICV	A	COV/ICV ↓ ↓
V.	Blanks	SW	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	A	LCS
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	A	
X.	Target compound identifications	A	
XI.	Compound quantitation and CRQLs	A	
XII.	System performance	A	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	SW	D = 1 + PZ-144_041311-36 (same SDG)
XV.	Field blanks	ND	EB = EB-PZ-144_041311 (same SDG) FB = FB-041411-19 (280-14572-1)

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

water

1	PZ-144_041311_01	11	1109204-MB	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Method: Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times:				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/MS Instrument performance check:				
Was PFK exact mass 380.9760 verified?	✓			
Were the retention time windows established for all homologues?	✓			
Was the chromatographic resolution between 2,3,7,8-TCDD and peaks representing any other unlabeled TCDD isomers < 25% ?	✓			
Is the static resolving power at least 10,000 (10% valley definition)?	✓			
Was the mass resolution adequately check with PFK?	✓			
Was the presence of 1,2,8,9-TCDD and 1,3,4,6,8-PeCDF verified?	✓			
III. Initial calibration:				
Was the initial calibration performed at 5 concentration levels?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20% for unlabeled standards and < 30% for labeled standards?	✓			
Did all calibration standards meet the Ion Abundance Ratio criteria?	✓			
Was the signal to noise ratio for each target compound ≥ 2.5 and for each recovery and internal standard > 10?	✓			
IV. Continuing calibration:				
Was a routine calibration performed at the beginning and end of each 12 hour period?	✓			
Were all percent differences (%D) ≤ 20% for unlabeled standards and ≤ 30% for labeled standards?	✓			
Did all routine calibration standards meet the Ion Abundance Ratio criteria?	✓			
V. Blanks:				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank performed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet?	✓			
VI. Matrix spike/Matrix spike duplicates:				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VII. Laboratory control samples:				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			

Validation Area	Yes	No	NA	Findings/Comments
VIII. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
IX. Internal standards				
Were internal standard recoveries within the 40-135% criteria?	✓			
Was the minimum S/N ratio of all internal standard peaks > 10?	✓			
X. Target compound identification				
For 2,3,7,8 substituted congeners with associated labeled standards, were the retention times of the two quantitation peaks within -1 to 3 sec. of the RT of the labeled standard?	✓			
For 2,3,7,8 substituted congeners without associated labeled standards, were the relative retention times of the two quantitation peaks within 0.005 time units of the RRT measured in the routine calibration?	✓			
For non-2,3,7,8 substituted congeners, were the retention times of the two quantitation peaks within RT established in the performance check solution?	✓			
Did compound spectra contain all characteristic ions listed in the table attached?	✓			
Was the Ion Abundance Ratio for the two quantitation ions within criteria?	✓			
Was the signal to noise ratio for each target compound and labeled standard \geq 2.5?	✓			
Does the maximum intensity of each specified characteristic ion coincide within \pm 2 seconds (includes labeled standards)?	✓			
For PCDF identification, was any signal ($S/N \geq 2.5$, at \pm seconds RT) detected in the corresponding PCDF channel?	✓			
Was an acceptable lock mass recorded and monitored?	✓			
XI. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.	✓			
Target compounds were detected in the field duplicates.	✓			
XV. Field blanks				
Field blanks were identified in this SDG.	✓			
Target compounds were detected in the field blanks.		✓		

LDC#: 25689G21

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: [Signature]
2nd Reviewer: [Signature]

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

Y/N/NA

Were field duplicate pairs identified in this SDG?

Y/N/NA

Were target analytes detected in the field duplicate pairs?

Compound	Concentration (p/L)		%RPD (≤ 35)	Qualifications (Parent Only)
	1	PZ-144_041311_36		
G	7.3	4.9	39	NQ(<5XRL)
O	1.1	0.97U	13	
P	1.9	1.4U	30	
Q	4.3	2.8U	42	NQ(<5XRL)

* EMPC

V:\FIELD DUPLICATES\25689G21.wpd

LDC #: 25689 621

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 7
 Reviewer: JVG
 2nd Reviewer: [Signature]

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$$RRF = (A_x)(C_{is}) / (A_{is})(C_x)$$

average RRF = sum of the RRFs/number of standards

$$\%RSD = 100 * (S/X)$$

A_x = Area of Compound

C_x = Concentration of compound,

S = Standard deviation of the RRFs,

A_{is} = Area of associated internal standard

C_{is} = Concentration of internal standard

X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (0.5/2.5/5 std)	Recalculated RRF (0.5/2.5/5 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	6/30/2010	2,3,7,8-TCDF (13C-2,3,7,8-TCDF)	0.944	0.944	0.986	0.986	5.3	5.3
	M2A		2,3,7,8-TCDD (13C-2,3,7,8-TCDD)	0.897	0.897	1.021	1.021	9.2	9.3
			1,2,3,6,7,8-HxCDD (13C-1,2,3,6,7,8-HxCDD)	0.939	0.939	0.943	0.943	2.9	2.9
			1,2,3,4,6,7,8-HpCDD (13C-1,2,4,6,7,8-HpCDD)	1.096	1.096	1.037	1.037	4.2	4.2
			OCDD (13C-OCDD)	1.048	1.048	1.011	1.011	3.5	3.5

Cis/Cx	Area cpd	Area IS
100/5	13459	2852888
100/5	9289	2070083
100/2.5	40427	1721480
100/2.5	45039	1643630
100/5	83135	3172926

Conc	2,3,7,8-TCDF	2,3,7,8-TCDD	1,2,3,6,7,8-HxCDD	1,2,3,4,6,7,8-HpCDD	OCDD
0.5/2.5/5	0.944	0.897	0.939	1.096	1.048
2/10/20	1.075	1.160	0.989	1.073	1.050
10/50/100	0.965	1.029	0.934	1.009	0.983
40/200/400	0.961	0.991	0.940	1.003	0.982
200/1000/2000	0.984	1.026	0.915	1.006	0.991
X =	0.986	1.021	0.943	1.037	1.011
S =	0.0519	0.0945	0.0274	0.0438	0.0351

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

$$\% \text{ Difference} = 100 * (\text{ave. RRF} - \text{RRF}) / \text{ave. RRF}$$

$$\text{RRF} = (\text{Ax})(\text{Cis}) / (\text{Ais})(\text{Cx})$$

ave. RRF = I/CAL average RRF Cx = Concentration of compound
 RRF = CCV RRF Ais = Area of associated internal standard
 Ax = Area of compound Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (IS)	Average RRF (Initial RRF)	Reported (CC RRF)	Recalculated (CC RRF)	Reported %D	Recalculated %D
1	b110425s1	04/25/11	2,3,7,8-TCDF (13C-2,3,7,8-TCDF)	0.986	0.981	0.981	0.5	0.5
			2,3,7,8-TCDD (13C-2,3,7,8-TCDD)	1.021	1.061	1.061	3.9	3.9
			1,2,3,6,7,8-HxCDD (13C-1,2,3,6,7,8-HxCDD)	0.943	0.997	0.997	5.9	5.7
			1,2,3,4,6,7,8-HpCDD (13C-1,2,4,6,7,8-HpCDD)	1.037	1.003	1.003	3.4	3.4
			OCDD (13C-OCDD)	1.011	0.988	0.988	2.2	2.2

Compound (IS)	Concentration (IS/Cpd)	Area Cpd	Area IS
2,3,7,8-TCDF (13C-2,3,7,8-TCDF)	100/10	292458	2982564
2,3,7,8-TCDD (13C-2,3,7,8-TCDD)	100/10	219564	2069695
1,2,3,6,7,8-HxCDD (13C-1,2,3,6,7,8-HxCDD)	100/50	952718	1910567
1,2,3,4,6,7,8-HpCDD (13C-1,2,4,6,7,8-HpCDD)	100/50	899895	1795293
OCDD (13C-OCDD)	100/50	1668195	3375493

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

METHOD: GC/MS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = $100 * SSC/SA$ Where: SSC = Spiked sample concentration
 SA = Spike added

RPD = $100 * |LCS - LCSD| / (LCS + LCSD)$

LCS = Laboratory control sample percent recovery LCSD = Laboratory control sample duplicate percent recovery

LCS ID: 1109204 LCS

Compound	Spike Added (Pg/L)		Spiked Sample Concentration (Pg/L)		LCS		LCSD	
	LCS	LCSD	LCS	LCSD	Percent Recovery		Percent Recovery	
					Reported	Recalc.	Reported	Recalc.
2,3,7,8-TCDD	200	NA	224	NA	112	112		
1,2,3,7,8-PeCDD	1000		996		101	100		
1,2,3,4,7,8-HxCDD			920		92	92		
1,2,3,4,7,8,9-HpCDD			960		96	96		
OCDF	2000		1990		100	100		

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

July 1, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Level IV Data Validation

Dear Mr. Reiners,

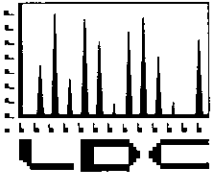
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on June 17, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25689:

<u>SDG #</u>	<u>Fraction</u>
280-14316-1	Semivolatiles, Perchlorate, Hydrazine
280-14379-1	Volatiles
280-14432-1/A1D090421 280-14758-1	Formaldehyde
280-14490-1/H1D130480 280-14572-1/H1D150456	Dioxins/Dibenzofurans
280-14528-1/8993	Gross Alpha & Beta, Strontium-90
280-14571-1	Semivolatiles, Polynuclear Aromatic Hydrocarbons
280-15184-1	Hydrazine

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008



- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV LDC #25689 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	SVOA (8270C)		PAH (8270-SIM)		CLO ₄ (8860)		Formaldehyde (8315)		Hydrazine (DVWC)		Dioxins (8290)		Gross α&β (900.0)		Sr-90 (905.0)		W S		W S		W S		W S		W S		W S		
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W
Matrix: Water/Soil																																
A	280-14316-1	06/17/11	07/11/11	2	0	-	-	1	0	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
B	280-14379-1	06/17/11	07/11/11	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
C	280-14432-1/ A1D090421	06/17/11	07/11/11	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
D	280-14490-1/ H1D130480	06/17/11	07/11/11	-	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
E	280-14528-1/ 8993	06/17/11	07/11/11	-	-	-	-	-	-	-	-	-	-	-	-	1	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	
F	280-14571-1	06/17/11	07/11/11	1	0	3	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
G	280-14572-1/ H1D150456	06/17/11	07/11/11	-	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
H	280-14758-1	06/17/11	07/11/11	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
I	280-15184-1	06/17/11	07/11/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total	A/P/G			5	0	3	0	1	0	3	0	2	0	2	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	18

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MSMSD, and DUPs

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 18, 2011

LDC Report Date: June 24, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: EPA Level IV

Laboratory: Test America, Inc.

Sample Delivery Group (SDG): 280-14758-1

Sample Identification

RD-68B_041811_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for all compounds were less than or equal to 20.0% .

III. Continuing Calibration

Continuing calibration was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 20.0% QC limits.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

All target compound identifications were within validation criteria.

IX. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14758-1	All compounds reported below the RL.	J (all detects)	A

X. System Performance

The system performance was acceptable.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Data Qualification Summary - SDG 280-14758-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14758-1	RD-68B_041811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-14758-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Formaldehyde - Field Blank Data Qualification Summary - SDG 280-14758-1**

No Sample Data Qualified in this SDG

LDC #: 25689H71
 SDG #: 280-14758-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level IV

Date: 6/22/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/12/11
II.	Initial calibration	A	% RSD ≤ 20%
III.	Calibration verification/LCV	A	CV ≤ 20%
IV.	Blanks	A	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	A	RD-05A-041811-01
VII.	Laboratory control samples	A	LCS
VIII.	Target compound identification	A	
IX.	Compound Quantitation and CRQLs	A	
X.	System Performance	A	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	RD-68B_041811_01	11	1110035-MB	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Method: GC / HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	/			
Cooler temperature criteria was met.	/			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	/			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) < 20%?	/			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?		/		
Did the initial calibration meet the curve fit acceptance criteria?			/	
Were the RT windows properly established?	/			
III. Continuing calibration				
What type of continuing calibration calculation was performed? %D or %R	/			
Was a continuing calibration analyzed daily?	/			
Were all percent differences (%D) < 20% or percent recoveries 80-120%?	/			
Were all the retention times within the acceptance windows?	/			
IV. Blanks				
Was a method blank associated with every sample in this SDG?	/			
Was a method blank analyzed for each matrix and concentration?	/			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.			/	
V. Surrogate spikes				
Were all surrogate %R within the QC limits?			/	
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			/	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			/	
VI. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	/			
Was a MS/MSD analyzed every 20 samples of each matrix?	/			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	/			
VII. Laboratory control samples				
Was an LCS analyzed for this SDG?	/			
Was an LCS analyzed per extraction batch?	/			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	/			
VIII. Regional Quality Assurance and Quality Control				

Validation Area	Yes	No	NA	Findings/Comments
Were performance evaluation (PE) samples performed?		/		
Were the performance evaluation (PE) samples within the acceptance limits?			/	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	/			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	/			
XII. System performance				
System performance was found to be acceptable.	/			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	/			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		/		
Target compounds were detected in the field duplicates.			/	
XV. Field blanks				
Field blanks were identified in this SDG.		/	/	
Target compounds were detected in the field blanks.				

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: GC _____ HPLC ✓

The calibration factors (CF), average CF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

CF = A/C
 average CF = sum of the CF/number of standards
 %RSD = 100 * (S/X)
 Where: A = Area of compound
 C = Concentration of compound
 S = Standard deviation of calibration factors
 X = Mean of calibration factors

#	Standard ID	Calibration Date	Compound	Reported CF (5 std)	Recalculated CF (5 std)	Reported Average CF (Initial)	Recalculated Average CF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL A2HP12	1/19/2011	Formaldehyde	46474	46474	47420	47420	2.822	2.823

Conc	Area
0.80	49455
1.00	47707
2.00	47473
5.00	46474
10.00	45990
X =	47420
S =	1338.490

232372

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC # 25689 #71

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [Signature]

METHOD: GC HPLC /

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration percent difference (%D) values were recalculated for the compounds identified below using the following calculation:

Percent difference (%D) = $100 * (N - C) / N$

Where:

N = Initial Calibration Factor or Nominal Amount

C = Calibration Factor from Continuing Calibration Standard or Calculated Amount

#	Standard ID	Calibration Date	Compound	CF	Reported Conc	Recalculated Conc	Reported % D	Recalculated %D
1	L11042206	4/22/2011	Formaldehyde	47420	49710	49710	4.8	4.8

Compound	Area	Conc
Formaldehyde	99419	2.0

CCV1

Matrix Spike/Matrix Spike Duplicates Results Verification

Reviewer: JVG

2nd Reviewer: _____

METHOD: GC / HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = $100 * (SSC - SC) / SA$

SSC = Spiked sample concentration

MS = Matrix spike

SC = Sample concentration

MSD = Matrix spike duplicate

RPD = $((SSCMS - SSCMSD) * 2) / (SSCMS + SSCMSD) * 100$

MS/MSD samples: RD-05A-041811-01 MS / MSD

Compound	Spike Added (ug/L)		Sample Conc. (ug/L)	Spike Sample Concentration (ug/L)		Matrix spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD		MS	MSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)			---								
Diesel (8015)											
Benzene (8021B)											
Methane (RSK-175)											
2,4-D (8151)											
Dinoseb (8151)											
Naphthalene (8310)											
Anthracene (8310)											
HMX (8330)											
2,4,6-Trinitrotoluene (8330)											
Formaldehyde (8215)	200	200	12.75	207.6	209.5	97	97	98	98	0.91	0.91

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

METHOD: GC / HPLC

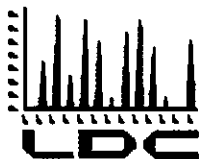
The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

$\% \text{Recovery} = 100 * (\text{SSC} - \text{SC}) / \text{SA}$ Where $\text{SSC} = \text{Spiked sample concentration}$ $\text{SC} = \text{Sample concentration}$
 $\text{RPD} = \left(\frac{|\text{SSCLCS} - \text{SSCLCSD}|}{(\text{SSCLCS} + \text{SSCLCSD})} \right) * 100$ $\text{SA} = \text{Spike added}$ $\text{LCS} = \text{Laboratory Control Sample}$ $\text{LCS} = \text{Laboratory Control Sample duplicate}$

LCS/LCSD samples: 1110035 LCS

Compound	Spike Added (Wg/L)		Spike Sample Concentration (Wg/L)		LCS		LCSD		LCS		LCSD		LCS/LCSD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)														
Diesel (8015)														
Benzene (8021B)														
Methane (RSK-175)														
2,4-D (8151)														
Dinoseb (8151)														
Naphthalene (8310)														
Anthracene (8310)														
HMX (8330)														
2,4,6-Trinitrotoluene (8330)														
Formaldehyde (8315)	200	NA	200	NA	100	100								

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

July 1, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Level IV Data Validation

Dear Mr. Reiners,

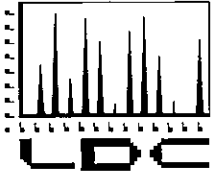
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on June 17, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25689:

<u>SDG #</u>	<u>Fraction</u>
280-14316-1	Semivolatiles, Perchlorate, Hydrazine
280-14379-1	Volatiles
280-14432-1/A1D090421 280-14758-1	Formaldehyde
280-14490-1/H1D130480 280-14572-1/H1D150456	Dioxins/Dibenzofurans
280-14528-1/8993	Gross Alpha & Beta, Strontium-90
280-14571-1	Semivolatiles, Polynuclear Aromatic Hydrocarbons
280-15184-1	Hydrazine

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008



- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV LDC #25689 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	SVOA (8270C)		PAH (8270-SIM)		CLO ₄ (6860)		Formaldehyde (8315)		Hydra-zine (DVWC)		Dioxins (8290)		Gross α&β (900.0)		Sr-90 (905.0)		W S		W S		W S		W S		W S			
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
Matrix: Water/Soil																															
A	280-14316-1	06/17/11	07/11/11	2	0	-	-	1	0	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
B	280-14379-1	06/17/11	07/11/11	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
C	280-14432-1/ A1D090421	06/17/11	07/11/11	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
D	280-14490-1/ H1D130480	06/17/11	07/11/11	-	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
E	280-14528-1/ 8993	06/17/11	07/11/11	-	-	-	-	-	-	-	-	-	-	-	-	1	0	1	0	-	-	-	-	-	-	-	-	-	-	-	
F	280-14571-1	06/17/11	07/11/11	1	0	3	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
G	280-14572-1/ H1D150456	06/17/11	07/11/11	-	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
H	280-14758-1	06/17/11	07/11/11	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
I	280-15184-1	06/17/11	07/11/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total	A/P/G			5	0	3	0	1	0	3	0	2	0	2	0	2	0	1	0	1	0	1	0	0	0	0	0	0	0	0	18

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 28, 2011

LDC Report Date: June 27, 2011

Matrix: Water

Parameters: Hydrazines

Validation Level: Level IV

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-15184-1

Sample Identification

RS-13_042811_01

RS-13_042811_01MS

RS-13_042811_01MSD

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DVWC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration of compounds was performed as required by the method.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990 .

III. Calibration Verification

Continuing calibration was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 20.0% QC limits.

The percent difference (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazines were found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No hydrazines were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No hydrazines were found in this blank.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

All target compound identifications were within validation criteria.

IX. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-15184-1	All compounds reported below the RL.	J (all detects)	A

X. System Performance

The system performance was acceptable.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-15184-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-15184-1	RS-13_042811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-15184-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-15184-1

No Sample Data Qualified in this SDG

LDC #: 25689176
 SDG #: 280-15184-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level IV

Date: 6/24/11
 Page: bf 1
 Reviewer: JVG
 2nd Reviewer: [Signature]

METHOD: HPLC Hydrazines (Method DVWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>9/28/11</u>
II.	Initial calibration	A	<u>ry</u>
III.	Calibration verification/ICV	A	<u>CV/ICV = 20%</u>
IV.	Blanks	A	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	A	
VII.	Laboratory control samples	A	<u>LS 10</u>
VIII.	Target compound identification	A	
IX.	Compound Quantitation and CRQLs	A	
X.	System Performance	A	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	<u>EB = EB-SH-04-040711 (280-14379-1)</u> <u>FB = FB-041411-11 (280-14655-1)</u>

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

1	RS-13_042811_01	11	<u>MB 280-65703/25</u>	21		31	
2	RS-13_042811_01MS	12		22		32	
3	RS-13_042811_01MSD	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Method: GC HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	<input checked="" type="checkbox"/>			
Cooler temperature criteria was met.	<input checked="" type="checkbox"/>			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	<input checked="" type="checkbox"/>			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) < 20%?	<input checked="" type="checkbox"/>			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?		<input checked="" type="checkbox"/>		
Did the initial calibration meet the curve fit acceptance criteria?			<input checked="" type="checkbox"/>	
Were the RT windows properly established?	<input checked="" type="checkbox"/>			
III. Continuing calibration				
What type of continuing calibration calculation was performed? <input checked="" type="checkbox"/> %D or <input type="checkbox"/> %R	<input checked="" type="checkbox"/>			
Was a continuing calibration analyzed daily?	<input checked="" type="checkbox"/>			
Were all percent differences (%D) < 20% or percent recoveries 80-120%?	<input checked="" type="checkbox"/>			
Were all the retention times within the acceptance windows?	<input checked="" type="checkbox"/>			
IV. Blanks				
Was a method blank associated with every sample in this SDG?	<input checked="" type="checkbox"/>			
Was a method blank analyzed for each matrix and concentration?	<input checked="" type="checkbox"/>			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		<input checked="" type="checkbox"/>		
V. Surrogate spikes				
Were all surrogate %R within the QC limits?			<input checked="" type="checkbox"/>	
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			<input checked="" type="checkbox"/>	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			<input checked="" type="checkbox"/>	
VI. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	<input checked="" type="checkbox"/>			
Was a MS/MSD analyzed every 20 samples of each matrix?	<input checked="" type="checkbox"/>			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	<input checked="" type="checkbox"/>			
VII. Laboratory control samples				
Was an LCS analyzed for this SDG?	<input checked="" type="checkbox"/>			
Was an LCS analyzed per extraction batch?	<input checked="" type="checkbox"/>			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	<input checked="" type="checkbox"/>			
VIII. Regional Quality Assurance and Quality Control				

Validation Area	Yes	No	NA	Findings/Comments
Were performance evaluation (PE) samples performed?		/		
Were the performance evaluation (PE) samples within the acceptance limits?			/	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	/			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	/			
XII. System performance				
System performance was found to be acceptable.	/			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	/			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		/		
Target compounds were detected in the field duplicates.			/	
XV. Field blanks				
Field blanks were identified in this SDG.	/			
Target compounds were detected in the field blanks.		/		

LDC#: 25689 I76
 SDG#: See below

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
 Reviewer: MC
 2nd Reviewer: LC

Method: DV-WC-0077

Calibration Date	System	Compound	Standard	(Y) Area	(X) Concentration
5/4/2011	ICS-2500	Hydrazine	1	0.563	5
			2	1.289	10
			3	2.695	20
			4	6.637	50
			5	11.113	80
			6	14.308	100

Regression Output	Calculated	Reported
Constant	-0.217832	-0.147200
R Squared	0.998970	0.999360
X Coefficient(s)	0.143064	0.141500
Correlation Coefficient	0.999485	
Coefficient of Determination (r^2)	0.998970	0.999360

LDC # 25 689 I 73

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Page: 1 of 1
Reviewer: [Signature]
2nd Reviewer: [Signature]

METHOD: GC HPLC

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration percent difference (%D) values were recalculated for the compounds identified below using the following calculation:

Percent difference (%D) = $100 * (N - C) / N$

Where: N = Initial Calibration Factor or Nominal Amount
C = Calibration Factor from Continuing Calibration Standard or Calculated Amount

#	Standard ID	Calibration Date	Compound	CCV Conc	Reported Conc	Recalculated Conc	Reported % D	Recalculated %D
1	070F7001	3/9/2011	Hydrazine	25	22.946	22.941	8.2	8.2

Response = $Conc * m + b$

CCV1 Response 3.099 m 0.1415 b -0.1472 Conc 22.941

Matrix Spike/Matrix Spike Duplicates Results Verification

Reviewer: JYG
2nd Reviewer: [Signature]

METHOD: GC HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = $100 * ((SC - SC) / SA)$

Where SSC = Spiked sample concentration MS = Matrix spike
SC = Sample concentration MSD = Matrix spike duplicate
SA = Spike added

RPD = $((|SSCMS - SSCMSD| * 2) / (SSCMS + SSCMSD)) * 100$

MS/MSD samples: 2 / 3

Compound	Spike Added (ng # mg)		Sample Conc. (ng # mg)	Spike Sample Concentration (ng # mg)		Matrix spike		Matrix Spike Duplicate		MS/MSD	
	MS	MSD		MS	MSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)											
Diesel (8015)											
Benzene (8021B)											
Methane (RSK-175)											
2,4-D (8151)											
Dinoseb (8151)											
Naphthalene (8310)											
Anthracene (8310)											
HMX (8330)											
2,4,6-Trinitrotoluene (8330)											
Hydrazine (DV-WC-0177)	20	20	1.8	24.6	25.1	114	114	116	116		

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

METHOD: GC / HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = $100 \cdot ((SS - SC) / SA)$ Where SSC = Spiked sample concentration SC = Sample concentration
 SA = Spike added

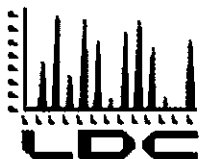
RPD = $((|SSCLCS - SSCLCS|) \cdot 2) / (SSCLCS + SSCLCS) \cdot 100$

LCS = Laboratory Control Sample LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples: LCS / D 250-65703 / 21, 23

Compound	Spike Added ($mc \cdot m$)		Spike Sample Concentration ($mc \cdot m$)		LCS		LCSD		Percent Recovery		Percent Recovery		RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)														
Diesel (8015)														
Benzene (8021B)														
Methane (RSK-175)														
2,4-D (8151)														
Dinoseb (8151)														
Naphthalene (8310)														
Anthracene (8310)														
HMX (8330)														
2,4,6-Trinitrotoluene (8330)														
<u>Hydrazine (61-WC-0077)</u>	<u>50</u>	<u>50</u>	<u>49.7</u>	<u>50.7</u>	<u>99</u>	<u>99</u>	<u>101</u>	<u>101</u>						

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

July 1, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

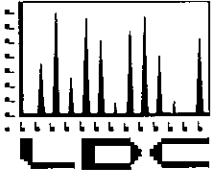
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on June 21, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25708:

<u>SDG #</u>	<u>Fraction</u>
280-16174-1	Volatiles, 1,2,3-Trichloropropane, Perchlorate
280-16200-1/8994	Gross Alpha & Beta, Strontium-90, Tritium, Isotopic Uranium

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007



Please feel free to contact us if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Pei Geng' in a cursive style.

Pei Geng
Project Manager/Senior Chemist

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: May 23, 2011

LDC Report Date: June 30, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-16174-1

Sample Identification

GW4056-EPASPLIT-1
GW4056-EPASPLIT-2
TB_GW4056
GW4056-EPASPLIT-1MS
GW4056-EPASPLIT-1MSD

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Sample TB_GW4056 was identified as a trip blank. No volatile contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
GW4056-EPASPLIT-1	Toluene-d8	111 (88-110)	All TCL compounds	J (all detects)	A
GW4056-EPASPLIT-2	Toluene-d8	128 (88-110)	All TCL compounds	J (all detects)	P
TB_GW4056	Toluene-d8	115 (88-110)	All TCL compounds	J (all detects)	P

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
GW4056-EPASPLIT-1MS/MSD (GW4056-EPASPLIT-1)	Methylene chloride Vinyl chloride	- 148 (49-136)	- -	22 (≤ 20) -	J (all detects) J (all detects)	A

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-16174-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-16174-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-16174-1	GW4056-EPASPLIT-1	All TCL compounds	J (all detects)	A	Surrogate spikes (%R) (S)
280-16174-1	GW4056-EPASPLIT-2 TB_GW4056	All TCL compounds	J (all detects)	P	Surrogate spikes (%R) (S)
280-16174-1	GW4056-EPASPLIT-1	Methylene chloride	J (all detects)	A	Matrix spike/Matrix spike duplicate (RPD) (Q)
280-16174-1	GW4056-EPASPLIT-1	Vinyl chloride	J (all detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
280-16174-1	GW4056-EPASPLIT-1 GW4056-EPASPLIT-2 TB_GW4056	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-16174-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-16174-1

No Sample Data Qualified in this SDG

LDC #: 25708A1a

VALIDATION COMPLETENESS WORKSHEET

SDG #: 280-16174-1

Level V

Laboratory: Test America, Inc.

Date: 6/28/11

Page: 1 of 1

Reviewer: SVG

2nd Reviewer: [Signature]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 5/23/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	A	LCS 1D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 3

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	GW4056-EPASPLIT-1	11	MB 280-70407/6	21	31
2	GW4056-EPASPLIT-2	12		22	32
3	TB_GW4056	13		23	33
4	GW4056-EPASPLIT-1MS	14		24	34
5	GW4056-EPASPLIT-1MSD	15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

VOCs

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: May 23, 2011

LDC Report Date: June 30, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-16174-1

Sample Identification

GW4056-EPASPLIT-1
GW4056-EPASPLIT-2
TB_GW4056

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-dioxane was found in the method blanks.

Sample TB_GW4056 was identified as a trip blank. No 1,4-dioxane was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

**Boeing SSFL GW 2nd Qtr, 2011
 1,4-Dioxane - Data Qualification Summary - SDG 280-16174-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-16174-1	GW4056-EPASPLIT-1 GW4056-EPASPLIT-2 TB_GW4056	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-16174-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-16174-1**

No Sample Data Qualified in this SDG

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 5/23/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS 5
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 3

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

water

1	GW4056-EPASPLIT-1	11	MP 280-69576/5	21		31	
2	GW4056-EPASPLIT-2	12		22		32	
3	TB_GW4056	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: May 23, 2011

LDC Report Date: June 30, 2011

Matrix: Water

Parameters: 1,2,3-Trichloropropane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-16174-1

Sample Identification

GW4056-EPASPLIT-1
GW4056-EPASPLIT-2
TB_GW4056

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-trichloropropane was found in the method blanks.

Sample TB_GW4056 was identified as a trip blank. No 1,2,3-trichloropropane was found in this blank.

VI. Surrogate Spikes

Surrogate spikes were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-16174-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

LDC #: 25708A1c
 SDG #: 280-16174-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 6/28/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC/MS 1,2,3-Trichloropropane (EPA SW 846 Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 5/23/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 3

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

water

1	GW4056-EPASPLIT-1	11	11 E3904-Blk1	21		31	
2	GW4056-EPASPLIT-2	12		22		32	
3	TB_GW4056	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: May 23, 2011
LDC Report Date: June 23, 2011
Matrix: Water
Parameters: Perchlorate
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-16174-1

Sample Identification

GW4056-EPASPLIT-1
GW4056-EPASPLIT-2
GW4056-EPASPLIT-1MS
GW4056-EPASPLIT-1MSD
GW4056-EPASPLIT-1DUP

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 314.0 for Perchlorate.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

Raw data were not reviewed for this SDG. The review was based on QC data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No perchlorate was found in the preparation blanks.

No field blanks were identified in this SDG.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-16174-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Perchlorate- Data Qualification Summary - SDG 280-16174-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-16174-1	GW4056-EPASPLIT-1 GW4056-EPASPLIT-2	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Perchlorate- Laboratory Blank Data Qualification Summary - SDG 280-16174-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Perchlorate- Field Blank Data Qualification Summary - SDG 280-16174-1**

No Sample Data Qualified in this SDG

LDC #: 25708A6
 SDG #: 280-16174-1
 Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 6/23/11
 Page: 1 of 1
 Reviewer: *ce*
 2nd Reviewer: *v*

METHOD: (Analyte) Perchlorate (EPA Method 314.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

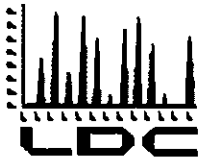
	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 5/23/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IV.	Matrix Spike/Matrix Spike Duplicates	A	MS/D
V.	Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS/D
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N N	
X.	Field blanks	N N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: *Water*

1	GW4056-EPASPLIT-1	11	<i>PBW</i>	21	31
2	GW4056-EPASPLIT-2	12		22	32
3	GW4056-EPASPLIT-1MS	13		23	33
4	GW4056-EPASPLIT-1MSD	14		24	34
5	GW4056-EPASPLIT-1DUP	15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

July 1, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

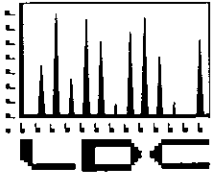
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on June 21, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25708:

<u>SDG #</u>	<u>Fraction</u>
280-16174-1	Volatiles, 1,2,3-Trichloropropane, Perchlorate
280-16200-1/8994	Gross Alpha & Beta, Strontium-90, Tritium, Isotopic Uranium

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007



Please feel free to contact us if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Pei Geng'.

Pei Geng
Project Manager/Senior Chemist

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: May 23, 2011
LDC Report Date: June 30, 2011
Matrix: Water
Parameters: Gross Alpha & Beta
Validation Level: Level V
Laboratory: Test America Laboratories, Inc./Eberline Analytical
Sample Delivery Group (SDG): 280-16200-1/8994

Sample Identification

GW4056-EPASPLIT-1D
GW4056-EPASPLIT-1P
GW4056-EPASPLIT-2D
GW4056-EPASPLIT-2P
GW4056-EPASPLIT-1DDUP

Samples ending in "D" were reported for dissolved only
Samples ending in "P" were reported for particulate only

Introduction

This data review covers 5 water samples listed on the cover sheet. The analyses were per EPA Method 900.0 for Gross Alpha and Beta Radioactivity.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field blanks were identified in this SDG.

V. Matrix Spike/Matrix Spike Duplicates

A matrix spike (MS) analysis was not required by the method.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

IX. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-16200-1/8994	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG

X. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Gross Alpha & Beta - Data Qualification Summary - SDG 280-16200-1/8994**

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-16200-1/8994	GW4056-EPASPLIT-1D GW4056-EPASPLIT-1P GW4056-EPASPLIT-2D GW4056-EPASPLIT-2P	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Gross Alpha & Beta - Laboratory Blank Data Qualification Summary - SDG 280-16200-1/8994**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Gross Alpha & Beta - Field Blank Data Qualification Summary - SDG 280-16200-1/8994**

No Sample Data Qualified in this SDG

METHOD: Gross Alpha & Beta (EPA SW 846 Method 900.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 5/23/11
II.	Initial calibration	N	
III.	Calibration verification	N	
IV.	Blanks	A	
V.	Matrix Spike/(Matrix Spike) Duplicates	A	dup
VI.	Laboratory control samples	A	LCS
VII.	Minimum detectable activity (MDA)	A	
VIII.	Sample result verification	N	
IX.	Overall assessment of data	A	
X.	Field duplicates	A	
XI.	Field blanks	A	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: water

1	GW4056-EPASPLIT-1(D)	11	PBW	21		31	
2	GW4056-EPASPLIT-1(R)	12		22		32	
3	GW4056-EPASPLIT-2(D)	13		23		33	
4	GW4056-EPASPLIT-2(R)	14		24		34	
5	GW4056-EPASPLIT-1(D) DUP	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: D = dissolved
P = particulate

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: May 23, 2011
LDC Report Date: June 30, 2011
Matrix: Water
Parameters: Gamma Spectroscopy
Validation Level: Level V
Laboratory: Test America Laboratories, Inc./Eberline Analytical
Sample Delivery Group (SDG): 280-16200-1/8994

Sample Identification

GW4056-EPASPLIT-1D
GW4056-EPASPLIT-1P
GW4056-EPASPLIT-2D
GW4056-EPASPLIT-2P
GW4056-EPASPLIT-1DDUP

Samples appended with "D" were reported for dissolved
Samples appended with "P" were reported for particulate

Introduction

This data review covers 5 water samples listed on the cover sheet. The analyses were per EPA Method 901.1 for Gamma Spectroscopy.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the isotope was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the isotope was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field blanks were identified in this SDG.

V. Matrix Spike/(Matrix Spike) Duplicates

A matrix spike (MS) analysis was not required by the method.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Minimum Detectable Activity

All minimum detectable activities met required detection limits with the following exceptions:

Sample	Isotope	RDL (pCi/L)	MDA (pCi/L)
GW4056-EPASPLIT-1P	Potassium-40	25	35.2
GW4056-EPASPLIT-2D	Potassium-40	25	30.6

Sample	Isotope	RDL (pCi/L)	MDA (pCi/L)
GW4056-EPASPLIT-2P	Potassium-40	25	50.7

The MDA was greater than the RDL as listed above.

IX. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-16200-1/8994	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Gamma Spectroscopy - Data Qualification Summary - SDG 280-16200-1/8994**

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-16200-1/8994	GW4056-EPASPLIT-1D GW4056-EPASPLIT-1P GW4056-EPASPLIT-2D GW4056-EPASPLIT-2P	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Gamma Spectroscopy - Laboratory Blank Data Qualification Summary - SDG 280-16200-1/8994**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Gamma Spectroscopy - Field Blank Data Qualification Summary - SDG 280-16200-1/8994**

No Sample Data Qualified in this SDG

LDC #: 25708B35 **VALIDATION COMPLETENESS WORKSHEET**

SDG #: 280-16200-1/8994 Level V

Laboratory : Test America Laboratories, Inc./Eberline Analytical

Date: 6/23/11

Page: 1 of 1

Reviewer: [Signature]

2nd Reviewer: [Signature]

METHOD: Gamma Spectroscopy (EPA Method 901.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>5/23/11</u>
II.	Initial calibration	N	
III.	Calibration verification	N	
IV.	Blanks	A	
V.	Matrix Spike/(Matrix Spike) Duplicates	A	<u>DUP</u>
VI.	Laboratory control samples	A	<u>LES</u>
VII.	Minimum detectable activity (MDA)	SW	
VIII.	Sample result verification	N	
IX.	Overall assessment of data	A	
X.	Field duplicates	N	
XI.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

water

1	GW4056-EPASPLIT-1(D)	11	<u>PBW</u>	21		31	
2	GW4056-EPASPLIT-1(D)	12		22		32	
3	GW4056-EPASPLIT-2(D)	13		23		33	
4	GW4056-EPASPLIT-2(D)	14		24		34	
5	GW4056-EPASPLIT-1(D) DUP	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: D=dissolved
P=particulate

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: May 23, 2011
LDC Report Date: June 30, 2011
Matrix: Water
Parameters: Tritium
Validation Level: Level V
Laboratory: Test America Laboratories, Inc./Eberline Services
Sample Delivery Group (SDG): 280-16200-1/8994

Sample Identification

GW4056-EPASPLIT-1
GW4056-EPASPLIT-2
GW4056-EPASPLIT-1DUP

Introduction

This data review covers 3 water samples listed on the cover sheet. The analyses were per EPA Method 906.0 for Tritium.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the isotope was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field blanks were identified in this SDG.

V. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) were not required by the method.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

IX. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-16200-1/8994	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG

X. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Tritium - Data Qualification Summary - SDG 280-16200-1/8994

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-16200-1/8994	GW4056-EPASPLIT-1 GW4056-EPASPLIT-2	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (TR)

Boeing SSFL GW 2nd Qtr, 2011
Tritium - Laboratory Blank Data Qualification Summary - SDG 280-16200-1/8994

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Tritium - Field Blank Data Qualification Summary - SDG 280-16200-1/8994

No Sample Data Qualified in this SDG

METHOD: Tritium (EPA Method 906.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 5/23/11
II.	Initial calibration	N	
III.	Calibration verification	N	
IV.	Blanks	A	
V.	Matrix Spike/(Matrix Spike) Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS
VII.	Minimum detectable activity (MDA)	A	
VIII.	Sample result verification	N	
IX.	Overall assessment of data	D	
X.	Field duplicates	N	
XI.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

water

1	GW4056-EPASPLIT-1	11	<i>PBW</i>	21		31	
2	GW4056-EPASPLIT-2	12		22		32	
3	GW4056-EPASPLIT-1DUP	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: May 23, 2011
LDC Report Date: June 30, 2011
Matrix: Water
Parameters: Isotopic Uranium
Validation Level: Level V
Laboratory: Test America Laboratories, Inc./Eberline Analytical
Sample Delivery Group (SDG): 280-16200-1/8994

Sample Identification

GW4056-EPASPLIT-1D
GW4056-EPASPLIT-1P
GW4056-EPASPLIT-2D
GW4056-EPASPLIT-2P
GW4056-EPASPLIT-1DDUP

Samples appended with "D" were reported for dissolved
Samples appended with "P" were reported for particulate

Introduction

This data review covers 5 water samples listed on the cover sheet. The analyses were per EPA Method 908.0 for Isotopic Uranium.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the isotope was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field blanks were identified in this SDG.

V. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) were not required by the method.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Tracer Recovery

All tracer recoveries were within validation criteria.

IX. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

X. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-16200-1/8994	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 Isotopic Uranium - Data Qualification Summary - SDG 280-16200-1/8994**

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-16200-1/8994	GW4056-EPASPLIT-1D GW4056-EPASPLIT-1P GW4056-EPASPLIT-2D GW4056-EPASPLIT-2P	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 Isotopic Uranium - Laboratory Blank Data Qualification Summary - SDG 280-16200-1/8994**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 Isotopic Uranium - Field Blank Data Qualification Summary - SDG 280-16200-1/8994**

No Sample Data Qualified in this SDG

LDC #: 25708A59

VALIDATION COMPLETENESS WORKSHEET

SDG #: 280-16200-1/8994

Level V

Laboratory: Test America Laboratories, Inc./Eberline Analytical

Date: 5/23/11

Page: 1 of 1

Reviewer: [Signature]

2nd Reviewer: [Signature]

METHOD: Isotopic Uranium (EPA Method 908.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 5/23/11
II.	Initial calibration	N	
III.	Calibration verification	N	
IV.	Blanks	A	
V.	Matrix Spike/(Matrix Spike) Duplicates	A	Dup
VI.	Laboratory control samples	A	LCS
VII.	Tracer Recovery	A	
VIII.	Minimum Detectable Activity (MDA)	A	
IX.	Sample result verification	N	
X.	Overall assessment of data	A	
XI.	Field duplicates	N	
XII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

water

1	GW4056-EPASPLIT-1(D)	11	PBW	21		31	
2	GW4056-EPASPLIT-1(F)	12		22		32	
3	GW4056-EPASPLIT-2(D)	13		23		33	
4	GW4056-EPASPLIT-2(F)	14		24		34	
5	GW4056-EPASPLIT-1(D) DUP	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: D = dissolved P = particulate

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011
Collection Date: May 23, 2011
LDC Report Date: June 30, 2011
Matrix: Water
Parameters: Strontium-90
Validation Level: Level V
Laboratory: Test America Laboratories, Inc./Eberline Analytical
Sample Delivery Group (SDG): 280-16200-1/8994

Sample Identification

GW4056-EPASPLIT-1D
GW4056-EPASPLIT-1P
GW4056-EPASPLIT-2D
GW4056-EPASPLIT-2P
GW4056-EPASPLIT-1DDUP

Samples appended with "D" were reported for dissolved
Samples appended with "P" were reported for particulate

Introduction

This data review covers 5 water samples listed on the cover sheet. The analyses were per EPA Method 905.0 for Strontium-90.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the isotope was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field blanks were identified in this SDG.

V. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) were not required by the method.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Carrier Recovery

All carrier recoveries were within validation criteria.

IX. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

X. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-16200-1/8994	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
Strontium-90 - Data Qualification Summary - SDG 280-16200-1/8994**

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-16200-1/8994	GW4056-EPASPLIT-1D GW4056-EPASPLIT-1P GW4056-EPASPLIT-2D GW4056-EPASPLIT-2P	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 2nd Qtr, 2011
Strontium-90 - Laboratory Blank Data Qualification Summary - SDG 280-16200-1/8994**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
Strontium-90 - Field Blank Data Qualification Summary - SDG 280-16200-1/8994**

No Sample Data Qualified in this SDG

METHOD: Strontium-90 (EPA Method 905.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 5/23/11
II.	Initial calibration	N	
III.	Calibration verification	N	
IV.	Blanks	A	
V.	Matrix Spike/(Matrix Spike) Duplicates	A	Ⓚ
VI.	Laboratory control samples	A	LC
VII.	Carrier recovery	A	
VIII.	Minimum detectable activity (MDA)	A	
IX.	Sample result verification	N	
X.	Overall assessment of data	A	
XI.	Field duplicates	N	
XII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

water

1	GW4056-EPASPLIT-1(D)	11	RBW	21		31	
2	GW4056-EPASPLIT-1(D)	12		22		32	
3	GW4056-EPASPLIT-2(D)	13		23		33	
4	GW4056-EPASPLIT-2(D)	14		24		34	
5	GW4056-EPASPLIT-1(D) DUP	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: Ⓚ = dissolved Ⓟ = particulate

Third Quarter 2011

APPENDIX B QUALITY ASSURANCE ASSESSMENT

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B-2	Summary of Third Quarter 2011 Duplicate Sample Results
B-3	Summary of Third Quarter 2011 Data Qualification

LIST OF ATTACHMENTS

Attachment Title

B-1 Data Validation Reports

LIST OF ACRONYMS AND ABBREVIATIONS

DO	dissolved oxygen
DQO	data quality objective
EPA	(United States) Environmental Protection Agency
GRO	gasoline range organics
HPLC	High performance liquid chromatography
LCS/LCSD	laboratory control sample/laboratory control sample duplicate
LDC	Laboratory Data Consultants
MARLAP	Multi-Agency Radiological Laboratory Analytical Protocols
MCL	maximum contaminant level
MDL	method detection limit
mg/L	milligrams per liter
MS/MSD	matrix spike/matrix spike duplicate
NDMA	N-nitrosodimethylamine
ORP	oxidation reduction potential
OSWER	Office of Solid Waste and Emergency Response
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
RL	reporting limit
RPD	relative percent difference
SDG	sample delivery group
SSFL	Santa Susana Field Laboratory

LIST OF ACRONYMS AND ABBREVIATIONS (Continued)

SMOU	Surficial Media Operable Unit
µg/L	micrograms per liter
VOCs	volatile organic compounds
WQSAP	Water Quality Sampling and Analysis Plan

1.0 OVERVIEW

Field and laboratory data were reviewed for consistency with the procedures outlined in the *Groundwater Monitoring Quality Assurance Project Plan (QAPP), Santa Susana Field Laboratory (SSFL)* (Appendix B of Site-wide Water Quality Sampling and Analysis Plan [WQSAP], Haley & Aldrich, 2010) following the third quarter 2011 quarterly groundwater sampling event. Results of the review are discussed in the following sections.

2.0 INTRODUCTION

2.1 Quality Assurance/Quality Control (QA/QC) Procedures

Following each quarterly groundwater sampling event, field and laboratory data are reviewed for consistency with procedures outlined in the *Groundwater Monitoring Quality Assurance Project Plan, Santa Susana Field Laboratory* (Appendix B of Haley & Aldrich, 2010). As the project develops, it is anticipated that the quality assurance assessment conducted following each quarterly event may be modified. The current procedures include reviewing (a) completeness of field forms and documentation and (b) analytical laboratory data for precision, accuracy, representativeness, comparability, completeness, and sensitivity.

Groundwater samples were submitted to the following laboratories:

Laboratory	Abbreviation	Location
TestAmerica-Denver (Primary)	TA-Denver	Arvada, Colorado
TestAmerica-Irvine (Split)	TA-Irvine	Irvine, California

2.2 Procedures for Collection of Quality Control Samples

The following QC samples were collected as part of the Groundwater Monitoring Program in order to ensure that all groundwater sample analysis results are consistent with the QA objectives.

- **Field duplicates:** Duplicate samples are two replicate groundwater samples collected from a given well. Both duplicate samples are submitted to the primary laboratory, but one of them is submitted as a “regular” sample, while the other is submitted as a “blind”

duplicate. Field duplicates should be collected at a rate of approximately five percent of the total number of primary field samples, per method, for each sampling event.

- **Split Samples:** Split samples are two replicate groundwater samples collected from a given well. One of the split samples is submitted to the primary laboratory and the other to the “split laboratory” for separate analysis and reporting. Split samples should be collected at a rate of five percent of the total number of primary field samples, per method, for groundwater samples collected per the Surficial Media Operable Unit (SMOU) RCRA Facility Investigation (RFI) QAPP (MECx, 2009). If there is a change in the primary laboratory or when verification sampling is required, then split samples should be collected at a rate of once per year, per method, for groundwater samples collected per the Groundwater Monitoring QAPP (Haley & Aldrich, 2010).
- **Field Blanks:** Field blank samples are prepared in the field using High Performance Liquid Chromatography (HPLC) grade water and are “collected” by filling the same type of sample containers as those used for the groundwater samples. Field blanks are then stored with field samples. In this manner, field blanks are intended to assess the potential introduction of contaminants from the source water or ambient air, cross contamination between field samples, and/or artifacts in sample containers. One field blank should be submitted per batch of water used for equipment rinse blanks.
- **Equipment Rinse Blanks:** Equipment rinse blank samples are prepared using HPLC grade water that has been used to rinse non-dedicated sampling equipment after decontaminating the equipment. Per the SMOU RFI QAPP (MECx, 2009), equipment rinse samples should be collected on a daily basis when non-dedicated sampling equipment are used to collect groundwater samples and the equipment rinse blank samples should be analyzed for each parameter analyzed in the field samples. Per the Groundwater Monitoring QAPP (Haley & Aldrich, 2010), equipment rinse blanks should be collected once per sampling event for any parameter analyzed in groundwater samples collected using non-dedicated sampling equipment.
- **Trip Blanks:** Trip blank samples are prepared in the laboratory using de-ionized water. The prepared trip blank samples are shipped from the laboratory with the empty sample containers to the field site and are stored and shipped with the collected samples back to the laboratory unopened. A trip blank is used to assess the potential introduction of contaminants from sample containers or during the transportation and storage process. One trip blank should be carried in each cooler containing field samples for volatile organic compounds (VOCs) and gasoline range organics (GRO) analysis. Trip blank samples will be analyzed for VOCs and/or GRO.
- **Matrix Spike/Matrix Spike Duplicates:** A matrix spike (MS) is an aliquot of a field sample spiked with a known concentration of all target analytes. A matrix spike duplicate (MSD) is a replicate of this process. Typically, three times the number of sample containers are filled with groundwater collected from a given well in order to provide sufficient volume of sample for MS/MSD preparation and analysis. MS/MSDs

should be collected at a rate of approximately five percent of the total number of samples collected, by method, for each sampling event.

2.3 Sample Custody

Chain-of-custody forms were completed by MWH personnel during the performance of sampling activities conducted at SSFL, as per the processes described in the QAPPs. These external chain-of-custody documents were completed appropriately upon sample transfer to analytical laboratory personnel.

2.4 Data Verification Process

Hardcopy data packages and electronic data were provided to Laboratory Data Consultants, Inc. (LDC) of Carlsbad, California, who initially performed a Level V review of the data. This encompassed an evaluation of sample collection procedures, holding times, blanks (to assess contamination), sample duplicates (to assess precision), laboratory control samples (LCS) (to assess accuracy), and MS and surrogate recoveries (to assess accuracy and matrix effects). Under MWH direction, LDC provided a comprehensive Level IV data review of verification samples, new detections, and results that appear to be inconsistent with historical trends or current understanding of transport and fate of chemical constituents. The Level IV validation included a complete review of summary information for instrument calibrations (to assess performance), compound identification, and quantitation, in addition to the Level V items.

Data were assessed in accordance with guidance from the *US Environmental Protection Agency (USEPA) Contract Laboratory Program National Functional Guidelines for Low Concentration Organic Data Review* (Office of Solid Waste and Emergency Response [OSWER] 9240.1-34, USEPA-540-R-00-006, June 2001), *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (OSWER 9240.1-46, USEPA-540-R-08-01, June 2008), *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (EPA 540-R-04-004, October 2004), *Multi-Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual* (USEPA, July 2004), and the EPA method-specific protocol criteria, where applicable.

3.0 QA/QC EVALUATION

3.1 Field Data

3.1.1 Pre-Sampling Water Levels

During the third quarter 2011 sampling event, a total of 344 wells, piezometers, or seeps were scheduled for water level monitoring. Monitoring attempts are summarized below. Sixteen wells, piezometers, or seeps were not monitored because:

- the vault was welded shut to prevent surface water from infiltrating the well (two wells)
- the flowing artesian well configuration was incompatible with the use of a pressure gauge/transducer (six wells)
- overgrown vegetation prevented access to wells (two wells)
- bees prevented access to well (one well)
- downhole access for measurement not available at off-site private well (one well)
- a partially removed FLUTE system prevented access for measurement (one well)
- no data logger installed due to pressure transducers being over-range since installation in FLUTE well (one well)
- pressure transducers installed in FLUTE wells were inoperable (two wells)

Water Level Monitoring	Third Quarter 2011
Number of locations scheduled	344
Number of locations monitored	328
Completeness value	95%

Percent completeness (% C) values presented in this summary were calculated using the following equation:

$$\% C = \frac{\text{Number of Valid (Usable) Measurements}}{\text{Number of Measurements Planned}} \times 100$$

3.1.2 Groundwater Sample Collection

During the third quarter 2011 sampling event, 200 wells, seeps, or piezometers were scheduled for sampling. Of the locations scheduled for sampling, 155 wells or piezometers (78 percent) were sampled. Samples were not collected at a number of locations because the wells or

piezometers were either dry, contained inadequate water for sampling purposes, the low-flow well equipment could not be installed, or the wells were not yet constructed.

A sampling completeness of 100 percent was achieved for those wells that could be sampled versus those that were scheduled or planned to be collected in the third quarter of 2011.

3.1.3 QA/QC Sample Collection

The QA/QC sample collection targets are listed in the QAPP (Haley & Aldrich, 2010) and the SMOU RFI QAPP (MECx, 2009). During the third quarter 2011, the QA/QC sample collection targets were met except where wells contained insufficient volume or inadequate quality for sampling.

Percent Completeness for QA/QC Sample Collection		
QC Sample Type	QAPP (Haley & Aldrich, 2010)	SMOU RFI QAPP (MECx, 2009)
Duplicate samples	90%	100%
Split samples	100%	100%
MS/MSD samples	91%	94%
Trip blanks	100%	
Field blanks	100%	100%
Equipment rinse blank	100%	100%

3.1.4 Water Quality Parameter Measurements

Water quality parameters (pH, oxidation reduction potential [ORP], dissolved oxygen [DO], electrical conductivity, and turbidity) are scheduled to be measured according to the WQSAP

(Haley & Aldrich, 2010). All exceptions for the third quarter of 2011 sampling event are listed on Table 7 located in the main body of this report.

3.2 Analytical Data

All laboratories used for this program are certified by the California Department of Public Health Environmental Laboratory Accreditation Program.

3.2.1 Comparison with Historical Water Quality Data

The majority of analyte concentrations increased or decreased somewhat when compared to the results from the prior monitoring event, but most values were within the range of historical data. A summary of results is included in Section 3 of the main body of this report.

Verification sampling is conducted when there is a newly detected constituent of concern, or when a constituent of concern is detected above the Regulatory Reference Values (defined in Table 8 of the main body of this report) in samples collected from Regulated Unit Detection monitoring wells. Verification sampling consists of collecting a primary sample, field duplicate, split sample, equipment rinse sample (non-dedicated equipment only), and a field blank sample and analyzing each for the constituent(s) of concern.

Nineteen monitoring wells were sampled during the third quarter 2011 to verify new detections. Results of verification sampling are summarized in Section 3 of the main body and Table 21 of the main body of this report.

3.2.2 Laboratory Performance Comparison

Results of analyses across laboratories were comparable as indicated by the relative percent differences (RPDs) of split samples (Table B-1). The RPDs were calculated for each analyte detected by both the primary and split laboratories if the analytes were detected at a concentration exceeding five times their respective reporting limits (RLs). RPDs for the split samples are summarized on Table B-1.

$$RPD = \left| \frac{(X_1 - X_2)}{X_{ave}} \right| \times 100$$

X_1 = value of first result;

X_2 = value of second result; and

X_{ave} = average concentration = $((X_1 + X_2) / 2)$

All RPDs calculated for third quarter 2011 split samples were less than the project acceptance criterion of 35 percent with the exception of dissolved gross alpha in RD-19. Dissolved gross alpha was qualified per the Groundwater Monitoring QAPP (Haley & Aldrich, 2010).

3.2.3 Field Duplicate Sample Precision

The RPDs of field duplicate samples are calculated for all analytes detected in both the primary and duplicate samples and are summarized on Table B-2. The RPDs were calculated for each analyte detected by both the primary and split laboratories if the analytes were detected at a concentration exceeding five times their RLs. The RPD values calculated for third quarter 2011 field duplicate sample analyses were acceptable and below the project acceptance criterion of 35 percent with the exception of n-nitrosodimethylamine (NDMA) in RD-45A. NDMA was qualified per the Groundwater Monitoring QAPP (Haley & Aldrich, 2010).

3.2.4 Blank Accuracy

The method detection limits (MDLs) reported for analytes in field blanks, equipment rinse blanks, and trip blanks were compared to the RL requirements defined in the Groundwater Monitoring (Haley & Aldrich, 2010) and SMOU RFI (MECx, 2009) QAPPs. As required by the project, the MDLs in the blank samples were less than the required RLs, with the following exceptions:

Constituent	QAPP RL Requirement	Laboratory MDL
pH	0.01 pH Units	0.1 pH Units
Orthophosphate-PO4	0.2 milligrams per liter (mg/L)	0.57 mg/L
Dissolved antimony (Method 6010B)	0.002 mg/L	0.0031 mg/L

Although the MDLs listed above do not meet the QAPP RL criteria, they represent the laboratory's lowest achievable detection limits.

The groundwater screening reference value is 8.5 pH units for pH (California Secondary Maximum Contaminant Level [MCL]) and 0.006 mg/L for antimony (California MCL); both are significantly higher than the laboratory RL (USEPA, 2008). Additionally, there is no regulatory limit established for orthophosphate. Therefore, data usability is not affected.

3.2.5 Data Representativeness, Reproducibility, and Completeness

Data representativeness, reproducibility, and completeness of results were evaluated by verifying the following:

- locations were sampled as scheduled,
- samples were properly collected and preserved (if required),
- procedures to maintain the integrity of samples during shipment were followed,
- sample dilutions were properly conducted,
- chain-of-custody records were complete when submitted or changed appropriately, and
- laboratory QA/QC data were obtained for each sample submitted.

Locations were sampled as scheduled except where wells contained insufficient water volume or where wells were inaccessible. All samples were preserved (where necessary) and shipped following acceptable procedures. Samples from wells with previous trichloroethene concentrations exceeding 3,000 micrograms per liter ($\mu\text{g/L}$) were segregated during storage and shipment.

A few chain-of-custody forms were not completed satisfactorily. Because the laboratories were notified of the deficiencies immediately following sample submission, all samples submitted were identified correctly and analyzed according to the monitoring schedule. In order to minimize future errors, field personnel were notified of the chain-of-custody form deficiencies.

All samples were received appropriately, identified correctly, and analyzed according to the monitoring requirements.

3.2.6 Data Usability Summary

LDC provided a comprehensive data verification report for each data package that summarized laboratory and project criteria that were not met, and sample results requiring qualification due to QC discrepancies. The verification reports were reviewed by MWH to ensure the verification procedures as described in the QAPPs were followed. The final validated and flagged data were reviewed by the project chemist and team to assess against the project data quality objectives (DQOs) to determine data usability.

3.2.6.1 Sample Data Reporting

Laboratory analytical reports contain laboratory specific data qualifiers. When an analysis was performed without dilution, the RL was based on the most recent MDL study conducted by the contract laboratory. The RL values for the dilution analyses were adjusted for the level of dilution performed. Values presented for target analytes detected at concentrations below the RL but above the MDL were flagged with a "J" as estimated values.

3.2.6.2 Data Qualifiers

The use of data qualifiers is intended to aid users in their interpretation of the sample results. Laboratory-specific data qualifiers were assigned by the laboratories to the reported results in accordance with each laboratory's standard operating procedures. However, some data qualifiers used by the laboratories do not correspond with standard EPA guidance as referenced in this document. The recommended EPA data qualifiers should preclude the use of the laboratory-specific qualifiers so that comparability of the reported results can be achieved if future analyses are performed at other laboratories.

The following is a summary of the data verification/validation qualifiers used in the review:

<u>Qualifier</u>	<u>Description</u>
J	The result is estimated.
R	The result is rejected.
U	The result is not detected above the MDL or reporting limit RL.
UJ	The result is not detected; however, the MDL or RL is qualified as estimated.

3.2.6.3 Summary

All final qualified results summarized on Table B-3 were found to be compliant with the DQOs for the project and are usable for the intended purpose as specified in the WQSAP (Haley & Aldrich, 2010).

4.0 REFERENCES

MECx, LP, 2009. "Quality Assurance Project Plan", Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit, Revision 4, March.

Haley & Aldrich, Inc., 2010. "Site-wide Water Quality Sampling and Analysis Plan", Santa Susana Field Laboratory, Ventura County, California, Revision 1, December.

U.S. Environmental Protection Agency (USEPA), 2001. "USEPA *Contract Laboratory Program National Functional Guidelines for Low Concentration Organic Data Review*", Office of Solid Waste and Emergency Response (OSWER) 9240.1-34, EPA-540-R-00-006, June.

-----, 2004a. "Multi-Agency Radiological Laboratory Analytical Protocols Manual (MARLAP)". July.

-----, 2004b. "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review", OSWER 9240.1-35, EPA 540-R-04-004, October.

-----, 2008b. "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review", OSWER 9240.1-46, USEPA-540-R-08-01, June.

-----, 2008. "Maximum Contaminant Levels and Regulatory Dates for Drinking Water U.S. EPA vs. California." <http://www.cdph.ca.gov/certlic/drinkingwater/Documents/DWdocuments/EPAandCDPH-11-28-2008.pdf>, updated November.

TABLE

TABLE B-1
SUMMARY OF THIRD QUARTER 2011 SPLIT SAMPLE RESULTS
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection	Analytical	Parameter	Split Sample	Primary Sample	Units	RPD
	Date	Method		Result	Result		
ES-17	7/26/2011	8260B	cis-1,2-Dichloroethene	220	260 J	µg/L	17
ES-17	7/26/2011	8260B	1,1,1-Trichloroethane	12 U	4.4 J	µg/L	NA
ES-17	7/26/2011	8260B	1,1-Dichloroethane	16 U	3.5 J	µg/L	NA
ES-17	7/26/2011	8260B	1,1-Dichloroethene	17 U	15 J	µg/L	NA
ES-17	7/26/2011	8260B	Dichlorodifluoromethane	10 U	6.2 J	µg/L	NA
ES-17	7/26/2011	8260B	Trichloroethene	2000	1900 J	µg/L	5.1
HAR-09	8/4/2011	8151A	Dinoseb	0.19 U	0.22 J	µg/L	NA
HAR-14	7/29/2011	1625M	n-Nitrosodimethylamine	2.4 U	2 J	µg/L	NA
HAR-14	7/29/2011	8270C	n-Nitrosodimethylamine	2.4 U	2.3 J	µg/L	NA
HAR-20	7/27/2011	8260B	cis-1,2-Dichloroethene	20 J	21	µg/L	4.9
HAR-20	7/27/2011	8260B	trans-1,2-Dichloroethene	1.7 J	2.2	µg/L	NA
HAR-20	7/27/2011	8260B	Vinyl chloride	0.54 J	0.54 J	µg/L	NA
HAR-20	7/27/2011	8260B	Trichloroethene	19 J	18	µg/L	5.4
HAR-26	7/20/2011	8270C	Diethyl phthalate	3.3 U	0.41 J	µg/L	NA
HAR-27	8/2/2011	8151A	Dinoseb	0.19 U	0.17 J	µg/L	NA
HAR-33	7/25/2011	8290	Octachlorodibenzofuran	0.99 J	1.3 U	pg/L	NA
HAR-33	7/25/2011	8290	2,3,4,6,7,8-Hexachlorodibenzofuran	0.73 J	0.52 U	pg/L	NA
PZ-060	7/21/2011	4500	Sulfide	0.027 J	0.007 U	mg/L	NA
PZ-060	7/21/2011	1625M	n-Nitrosodimethylamine	2.5 U	0.0016 J	µg/L	NA
PZ-139	7/11/2011	300.0	Sulfate	120	120	mg/L	NA
PZ-139	7/11/2011	300.0	Chloride	24	27	mg/L	NA
PZ-139	7/11/2011	300.0	Fluoride	1.3	1.4	mg/L	NA
PZ-139	7/11/2011	300.0	Bromide	0.47 J	0.31 J	mg/L	NA
PZ-139	7/11/2011	300.0	Nitrate-NO3	3.6	3.8	mg/L	NA
PZ-139	7/11/2011	6020	Manganese, Dissolved	0.14	0.14	mg/L	0.0
PZ-139	7/11/2011	6020	Molybdenum, Dissolved	0.0029	0.0027	mg/L	NA
PZ-139	7/11/2011	6020	Nickel, Dissolved	0.0055	0.0052	mg/L	NA
PZ-139	7/11/2011	6020	Arsenic, Dissolved	0.0011	0.0011 J	mg/L	NA
PZ-139	7/11/2011	6020	Barium, Dissolved	0.018	0.019	mg/L	5.4

TABLE B-1
SUMMARY OF THIRD QUARTER 2011 SPLIT SAMPLE RESULTS
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection	Analytical Method	Parameter	Split Sample	Primary Sample	Units	RPD
	Date			Result	Result		
PZ-139	7/11/2011	6020	Cadmium, Dissolved	0.0001 U	0.00008 J	mg/L	NA
PZ-139	7/11/2011	6020	Cobalt, Dissolved	0.00068 J	0.00058 J	mg/L	NA
PZ-139	7/11/2011	6020	Vanadium, Dissolved	0.001 J	0.0013 J	mg/L	NA
PZ-139	7/11/2011	6020	Zinc, Dissolved	0.004 U	0.0042 J	mg/L	NA
PZ-139	7/11/2011	6020	Selenium, Dissolved	0.00095 J	0.0007 U	mg/L	NA
PZ-139	7/11/2011	8290	1,2,3,7,8,9-Hexachlorodibenzofuran	2.5 J	0.53 U	pg/L	NA
PZ-139	7/11/2011	6010B	Magnesium, Dissolved	31	28	mg/L	10
PZ-139	7/11/2011	6010B	Potassium, Dissolved	2.1	2.3	mg/L	NA
PZ-139	7/11/2011	6010B	Sodium, Dissolved	120	130	mg/L	8.0
PZ-139	7/11/2011	6010B	Boron, Dissolved	0.051	0.049 J	mg/L	NA
PZ-139	7/11/2011	6010B	Calcium, Dissolved	66	57	mg/L	15
PZ-139	7/12/2011	8015B	Diesel Range Organics (C21-C30)	0.097 U	0.046 J	mg/L	NA
PZ-139	7/11/2011	8260B	cis-1,2-Dichloroethene	9.9	9.7	µg/L	2.0
PZ-139	7/11/2011	8260B	trans-1,2-Dichloroethene	0.51 J	0.53 J	µg/L	NA
PZ-139	7/11/2011	8260B	1,1-Dichloroethene	0.52 J	0.57 J	µg/L	NA
PZ-139	7/11/2011	8260B	Trichloroethene	180	210	µg/L	15
RD-11	7/19/2011	4500	Sulfide	0.084 J	0.088 J	mg/L	NA
RD-12	7/19/2011	9012	Cyanides	0.0031 J	0.0023 J	mg/L	NA
RD-19	7/18/2011	300.0	Fluoride	0.49 J	0.4 J	mg/L	NA
RD-19	7/18/2011	900.0	Gross Alpha, Dissolved	17.4 J	27.406 J	pCi/L	45
RD-19	7/18/2011	900.0	Gross Beta, Dissolved	11.6	13.512	pCi/L	NA
RD-19	7/18/2011	908.0	Uranium-235, Dissolved	0.66 J	0.82 J	pCi/L	NA
RD-19	7/18/2011	908.0	Uranium-238, Dissolved	13.8	12.71 J	pCi/L	8.2
RD-19	7/18/2011	908.0	Uranium-233/234, Dissolved	14.8	14.16 J	pCi/L	4.4
RD-50	7/21/2011	6020	Lead	0.00093 J	0.00089 J	mg/L	NA
RD-50	7/21/2011	6020	Lead, Dissolved	0.0011	0.0012 J	mg/L	NA
RD-50	7/21/2011	6020	Nickel	0.00055 J	0.00064 J	mg/L	NA
RD-50	7/21/2011	6020	Nickel, Dissolved	0.00058 J	0.00073 U	mg/L	NA

TABLE B-1
SUMMARY OF THIRD QUARTER 2011 SPLIT SAMPLE RESULTS
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection	Analytical Method	Parameter	Split Sample	Primary Sample	Units	RPD
	Date			Result	Result		
RD-50	7/21/2011	6020	Silver, Dissolved	0.0001 U	0.000026 J	mg/L	NA
RD-50	7/21/2011	6020	Antimony	0.00068 J	0.00039 J	mg/L	NA
RD-50	7/21/2011	6020	Antimony, Dissolved	0.00048 J	0.00048 J	mg/L	NA
RD-50	7/21/2011	6020	Arsenic	0.01	0.011	mg/L	NA
RD-50	7/21/2011	6020	Arsenic, Dissolved	0.0097	0.011	mg/L	NA
RD-50	7/21/2011	6020	Barium	0.05	0.051	mg/L	2.0
RD-50	7/21/2011	6020	Barium, Dissolved	0.048	0.052	mg/L	8.0
RD-50	7/21/2011	6020	Cobalt	0.00048 J	0.00046 J	mg/L	NA
RD-50	7/21/2011	6020	Cobalt, Dissolved	0.00042 J	0.00047 J	mg/L	NA
RD-50	7/21/2011	6020	Vanadium	0.0034	0.003 J	mg/L	NA
RD-50	7/21/2011	6020	Vanadium, Dissolved	0.0025	0.0031 J	mg/L	NA
RD-50	7/21/2011	6020	Zinc	0.15	0.15	mg/L	0.0
RD-50	7/21/2011	6020	Zinc, Dissolved	0.15	0.16	mg/L	6.5
RD-50	7/21/2011	6020	Selenium	0.0056	0.0053	mg/L	NA
RD-50	7/21/2011	6020	Selenium, Dissolved	0.0046	0.0056	mg/L	NA
RS-32	7/18/2011	8015B	Gasoline Range Organics (C6-C12)	25 U	13 J	µg/L	NA
RS-33	7/26/2011	1625M	n-Nitrosodimethylamine	2.4 U	0.21	µg/L	NA
RS-34	7/21/2011	8290	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	0.61 J	0.77 U	pg/L	NA
RS-34	7/21/2011	8290	Octachlorodibenzo-p-dioxin	3.9 U	17 J	pg/L	NA
RS-34	7/21/2011	8290	Octachlorodibenzofuran	0.99 J	3.1 J	pg/L	NA
RS-34	7/21/2011	8290	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	0.48 J	0.72 U	pg/L	NA
RS-34	7/21/2011	8290	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	0.73 J	1.1 U	pg/L	NA
RS-34	7/21/2011	8290	1,2,3,4,7,8,9-Heptachlorodibenzofuran	0.6 J	0.95 U	pg/L	NA
RS-34	7/21/2011	8290	2,3,4,7,8-Pentachlorodibenzofuran	0.42 J	0.8 U	pg/L	NA
RS-34	7/21/2011	8290	1,2,3,7,8-Pentachlorodibenzofuran	0.78 J	1 U	pg/L	NA
RS-34	7/21/2011	8290	1,2,3,6,7,8-Hexachlorodibenzofuran	0.69 J	0.44 U	pg/L	NA
RS-34	7/21/2011	8290	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	0.76 J	0.97 U	pg/L	NA

TABLE B-1
SUMMARY OF THIRD QUARTER 2011 SPLIT SAMPLE RESULTS
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Analytical Method	Parameter	Split Sample Result	Primary Sample Result	Units	RPD
RS-34	7/21/2011	8290	2,3,4,6,7,8-Hexachlorodibenzofuran	0.58 J	0.46 U	pg/L	NA
RS-34	7/21/2011	8290	1,2,3,4,7,8-Hexachlorodibenzofuran	0.63 J	0.51 U	pg/L	NA

TABLE B-1
SUMMARY OF THIRD QUARTER 2011 SPLIT SAMPLE RESULTS
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Analytical Method	Parameter	Split Sample Result	Primary Sample Result	Units	RPD
RS-34	7/21/2011	8290	1,2,3,7,8,9-Hexachlorodibenzofuran	0.44 J	0.68 U	pg/L	NA
SH-04	7/20/2011	8270C	Diethyl phthalate	3.6 U	0.46 J	µg/L	NA

RPDs are only calculated when an analyte is detected in both the primary and split samples at concentrations exceeding five times their RLs. Results in bold exceed the acceptance criterion of 35.

NOTES AND ABBREVIATIONS

µg/L - micrograms per liter

mg/L - milligrams per liter

pg/L - picograms per liter

pCi/L - picocuries per liter

NA - not applicable

RPD - relative percent difference

U - the result is not detected above the method detection limit (MDL) or reporting limit (RL)

J - the result is estimated

TABLE B-2
SUMMARY OF THIRD QUARTER 2011 FIELD DUPLICATE SAMPLE RESULTS
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Analytical Method	Parameter	Duplicate Sample Result	Primary Sample Result	Units	RPD
ES-17	7/26/2011	1625M	n-Nitrosodimethylamine	0.42	0.53	µg/L	23
ES-17	7/26/2011	8260B	1,1,1-Trichloroethane	4.7 J	4.4 J	µg/L	NA
ES-17	7/26/2011	8260B	1,1-Dichloroethane	3.9 J	3.5 J	µg/L	NA
ES-17	7/26/2011	8260B	1,1-Dichloroethene	16 J	15 J	µg/L	NA
ES-17	7/26/2011	8260B	cis-1,2-Dichloroethene	280 J	260 J	µg/L	7.4
ES-17	7/26/2011	8260B	Dichlorodifluoromethane	6.1 J	6.2 J	µg/L	NA
ES-17	7/26/2011	8260B	Trichloroethene	1900 J	1900 J	µg/L	0.0
HAR-01	8/9/2011	1625M	n-Nitrosodimethylamine	0.032 J	0.027 J	µg/L	17
HAR-04	8/5/2011	300.0	Fluoride	1.3	1.3	mg/L	NA
HAR-04	8/5/2011	300.0	Nitrate-NO3	14	14	mg/L	0.0
HAR-04	8/5/2011	314.0	Perchlorate	0.47 J	0.41 J	µg/L	NA
HAR-04	8/5/2011	350.1	Ammonia-N	0.055 U	0.055 J	mg/L	NA
HAR-04	8/5/2011	6860	Perchlorate	0.63	0.61	µg/L	3.2
HAR-04	8/5/2011	8260B	1,1,1-Trichloroethane	2.4 J	2.1 J	µg/L	NA
HAR-04	8/5/2011	8260B	cis-1,2-Dichloroethene	34 J	29 J	µg/L	16
HAR-04	8/5/2011	8260B	Trichloroethene	690	600 J	µg/L	14
HAR-04	8/5/2011	8270C	bis(2-Ethylhexyl) phthalate	1.9 J	1.8 J	µg/L	NA
HAR-04	8/5/2011	9040B	pH	6.63	6.68	pH Units	0.8
HAR-07	8/2/2011	1625M	n-Nitrosodimethylamine	0.025	0.026	µg/L	3.9
HAR-08	8/2/2011	1625M	n-Nitrosodimethylamine	0.015	0.015	µg/L	NA
HAR-09	8/4/2011	1625M	n-Nitrosodimethylamine	0.012	0.013	µg/L	NA
HAR-09	8/4/2011	8151A	Dinoseb	0.23 J	0.22 J	µg/L	NA
HAR-12	7/29/2011	1625M	n-Nitrosodimethylamine	0.0068	0.0067 J	µg/L	NA
HAR-14	7/29/2011	1625M	n-Nitrosodimethylamine	2.5	2 J	µg/L	22
HAR-14	7/29/2011	8270C	Benzyl alcohol	0.23 U	1.7 J	µg/L	NA
HAR-14	7/29/2011	8270C	n-Nitrosodimethylamine	2.4 J	2.3 J	µg/L	NA
HAR-15	7/20/2011	1625M	n-Nitrosodimethylamine	0.005 U	0.0071	µg/L	NA
HAR-16	8/5/2011	1625M	n-Nitrosodimethylamine	2.1	2.4	µg/L	13

TABLE B-2
SUMMARY OF THIRD QUARTER 2011 FIELD DUPLICATE SAMPLE RESULTS
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Analytical Method	Parameter	Duplicate Sample	Primary Sample	Units	RPD
				Result	Result		
HAR-19	7/12/2011	1625M	n-Nitrosodimethylamine	0.0091 J	0.0091 J	µg/L	NA
HAR-19	7/12/2011	8015B	Diesel Range Organics (C8-C30)	0.074 U	0.074 J	mg/L	NA
HAR-19	7/12/2011	8015B	Kerosene Range (C15-C20)	0.034 J	0.06 J	mg/L	NA
HAR-19	7/12/2011	8260B	1,1-Dichloroethene	0.86 J	0.77 J	µg/L	NA
HAR-19	7/12/2011	8260B	Acetone	3 J	2.1 J	µg/L	NA
HAR-19	7/12/2011	8260B	cis-1,2-Dichloroethene	270	320 J	µg/L	17
HAR-19	7/12/2011	8260B	trans-1,2-Dichloroethene	120	140 J	µg/L	15
HAR-19	7/12/2011	8260B	Trichloroethene	170	200 J	µg/L	16
HAR-19	7/12/2011	8260B	Vinyl chloride	16 J	15 J	µg/L	6.5
HAR-19	7/12/2011	8260B SIM	1,4-Dioxane	0.74 J	0.71 J	µg/L	NA
HAR-19	7/12/2011	8270C	Diethyl phthalate	0.37 J	0.36 U	µg/L	NA
HAR-20	7/27/2011	8260B	cis-1,2-Dichloroethene	23	21	µg/L	9.1
HAR-20	7/27/2011	8260B	trans-1,2-Dichloroethene	2.3	2.2	µg/L	NA
HAR-20	7/27/2011	8260B	Trichloroethene	20	18	µg/L	11
HAR-20	7/27/2011	8260B	Vinyl chloride	0.68 J	0.54 J	µg/L	NA
HAR-21	7/29/2011	1625M	n-Nitrosodimethylamine	0.039	0.04 J	µg/L	2.5
HAR-26	7/20/2011	9012	Cyanides	0.0026 J	0.002 U	mg/L	NA
HAR-26	7/20/2011	8270C	Diethyl phthalate	0.36 U	0.41 J	µg/L	NA
HAR-27	8/2/2011	8151A	Dinoseb	0.17 UJ	0.17 J	µg/L	NA
HAR-32	8/8/2011	1625M	n-Nitrosodimethylamine	0.023 J	0.024 J	µg/L	NA
PZ-035	7/21/2011	1625M	n-Nitrosodimethylamine	0.033	0.023	µg/L	NA
PZ-060	7/21/2011	1625M	n-Nitrosodimethylamine	0.3 U	0.0016 J	µg/L	NA
PZ-140	8/9/2011	300.0	Bromide	0.61	0.61	mg/L	NA
PZ-140	8/9/2011	300.0	Chloride	180	180	mg/L	0.0
PZ-140	8/9/2011	300.0	Fluoride	0.43 J	0.43 J	mg/L	NA
PZ-140	8/9/2011	300.0	Nitrate-NO3	11	11	mg/L	NA
PZ-140	8/9/2011	300.0	Sulfate	150	150	mg/L	0.0
PZ-140	8/9/2011	6020	Arsenic, Dissolved	0.0006 J	0.00065 J	mg/L	NA

TABLE B-2
SUMMARY OF THIRD QUARTER 2011 FIELD DUPLICATE SAMPLE RESULTS
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Analytical Method	Parameter	Duplicate Sample Result	Primary Sample Result	Units	RPD
PZ-140	8/9/2011	6020	Barium, Dissolved	0.071	0.068	mg/L	4.3
PZ-140	8/9/2011	6020	Cadmium, Dissolved	0.000044 J	0.00004 U	mg/L	NA
PZ-140	8/9/2011	6020	Cobalt, Dissolved	0.0018	0.0018	mg/L	NA
PZ-140	8/9/2011	6020	Manganese, Dissolved	0.12	0.13	mg/L	8.0
PZ-140	8/9/2011	6020	Selenium, Dissolved	0.0007 U	0.00096 J	mg/L	NA
PZ-140	8/9/2011	6020	Vanadium, Dissolved	0.00098 J	0.0009 J	mg/L	NA
PZ-140	8/9/2011	6020	Zinc, Dissolved	0.002 U	0.0026 J	mg/L	NA
PZ-140	8/9/2011	6010B	Boron, Dissolved	0.045 J	0.046 J	mg/L	NA
PZ-140	8/9/2011	6010B	Calcium, Dissolved	130	130	mg/L	0.0
PZ-140	8/9/2011	6010B	Magnesium, Dissolved	41	41	mg/L	0.0
PZ-140	8/9/2011	6010B	Potassium, Dissolved	3.2	3.2	mg/L	NA
PZ-140	8/9/2011	6010B	Sodium, Dissolved	75	75	mg/L	0.0
PZ-140	8/9/2011	8015B	Diesel Range Organics (C8-C30)	0.078 U	0.11 J	mg/L	NA
PZ-140	8/9/2011	8015B	Gasoline Range Organics (C12-C14)	0.069 J	0.091 J	mg/L	NA
PZ-140	8/9/2011	8260B	cis-1,2-Dichloroethene	7.3 J	8.5	µg/L	15
PZ-140	8/9/2011	8260B	Trichloroethene	110	110	µg/L	0.0
PZ-140	8/9/2011	8270C	2-Methylnaphthalene	0.0054 J	0.29 U	µg/L	NA
PZ-140	8/9/2011	8270C	Diethyl phthalate	0.71 J	1.3 J	µg/L	NA
PZ-140	8/9/2011	8270C SIM	2-Methylnaphthalene	0.0054 J	0.005 U	µg/L	NA
PZ-140	8/9/2011	8270C SIM	Butyl benzyl phthalate	0.034 J	0.043 J	µg/L	NA
PZ-140	8/9/2011	8270C SIM	Diethyl phthalate	0.71 J	1.4 J	µg/L	NA
PZ-140	8/9/2011	8270C SIM	Naphthalene	0.0051 UJ	0.0069 J	µg/L	NA
PZ-154	7/27/2011	1625M	n-Nitrosodimethylamine	0.019	0.02	µg/L	NA
RD-01	7/15/2011	1625M	n-Nitrosodimethylamine	0.01 J	0.0096 J	µg/L	NA
RD-02	7/15/2011	1625M	n-Nitrosodimethylamine	0.0077 J	0.009 J	µg/L	NA
RD-104	7/27/2011	1625M	n-Nitrosodimethylamine	0.0089	0.0087	µg/L	NA
RD-11	7/19/2011	4500	Sulfide	0.091 J	0.088 J	mg/L	NA
RD-12	7/19/2011	9012	Cyanides	0.002 U	0.0023 J	mg/L	NA

TABLE B-2
SUMMARY OF THIRD QUARTER 2011 FIELD DUPLICATE SAMPLE RESULTS
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Analytical Method	Parameter	Duplicate Sample	Primary Sample	Units	RPD
				Result	Result		
RD-38B	7/28/2011	300.0	Fluoride	0.3 J	0.3 J	mg/L	NA
RD-38B	7/28/2011	8015B	Diesel Range Organics (C8-C30)	0.095 J	0.1 J	mg/L	NA
RD-38B	7/28/2011	8015B	Gasoline Range Organics (C12-C14)	0.082 J	0.083 J	mg/L	NA
RD-38B	7/28/2011	8015B	Gasoline Range Organics (C6-C12)	29 J	26 J	µg/L	NA
RD-38B	7/28/2011	8270C	bis(2-Ethylhexyl) phthalate	0.54 U	0.61 J	µg/L	NA
RD-38B	7/28/2011	9040B	pH	7.37	7.32	pH Units	0.7
RD-41B	8/2/2011	8260B	1,1-Dichloroethene	5.2	5.8	µg/L	NA
RD-41B	8/2/2011	8260B	Acetone	110	9.5 U	µg/L	NA
RD-41B	8/2/2011	8260B	cis-1,2-Dichloroethene	1200	1200 J	µg/L	0.0
RD-41B	8/2/2011	8260B	trans-1,2-Dichloroethene	120	120	µg/L	0.0
RD-41B	8/2/2011	8260B	Trichloroethene	250	270	µg/L	7.7
RD-41B	8/2/2011	8260B	Vinyl chloride	22	23	µg/L	NA
RD-41B	8/2/2011	8260B SIM	1,4-Dioxane	0.81 J	1.3 J	µg/L	NA
RD-43C	8/4/2011	300.0	Fluoride	0.32 J	0.32 J	mg/L	NA
RD-43C	8/4/2011	350.1	Ammonia-N	0.057 J	0.058 J	mg/L	NA
RD-43C	8/4/2011	8270C	bis(2-Ethylhexyl) phthalate	1.7 J	1.8 J	µg/L	NA
RD-43C	8/4/2011	9040B	pH	7.44	7.44	pH Units	0.0
RD-45A	8/10/2011	1625M	n-Nitrosodimethylamine	0.16 J	0.11 J	µg/L	37
RD-49C	8/5/2011	1625M	n-Nitrosodimethylamine	0.013	0.011	µg/L	NA
RD-51B	8/3/2011	1625M	n-Nitrosodimethylamine	0.005 U	0.0081	µg/L	NA
RD-58A	7/25/2011	300.0	Fluoride	0.26 J	0.27 J	mg/L	NA
RD-58A	7/25/2011	300.0	Nitrate-NO3	0.19 J	0.2 J	mg/L	NA
RD-58A	7/25/2011	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	4 J	4.1 J	µg/L	NA
RD-58A	7/25/2011	8260B	cis-1,2-Dichloroethene	1.8	1.9 J	µg/L	NA
RD-58A	7/25/2011	8260B	Trichloroethene	120 J	100	µg/L	18
RD-58A	7/25/2011	8270C	bis(2-Ethylhexyl) phthalate	0.57 J	0.56 U	µg/L	NA
RD-58A	7/25/2011	8270C	Di-n-octyl phthalate	2.1 J	0.35 U	µg/L	NA
RD-58A	7/25/2011	9040B	pH	7.15 J	7.03 J	pH Units	1.7

TABLE B-2
SUMMARY OF THIRD QUARTER 2011 FIELD DUPLICATE SAMPLE RESULTS
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Analytical Method	Parameter	Duplicate Sample	Primary Sample	Units	RPD
				Result	Result		
RD-68A	7/11/2011	1625M	n-Nitrosodimethylamine	0.005 UJ	0.01 J	µg/L	NA
RD-69	7/26/2011	8260B	Acetone	7.2 J	10 UJ	µg/L	NA
RD-85	7/14/2011	300.0	Fluoride	0.43 J	0.43 J	mg/L	NA
RD-85	7/14/2011	900.0	Gross Alpha, Dissolved	9.922 J	9.813 J	pCi/L	NA
RD-85	7/14/2011	900.0	Gross Beta, Dissolved	5.869 U	11.899	pCi/L	NA
RD-85	7/14/2011	901.1	Barium-133, Particulate	2.167 J	0.724 U	pCi/L	NA
RD-85	7/14/2011	908.0	Uranium, Dissolved	4.75	4.709 J	pCi/L	NA
RD-85	7/14/2011	908.0	Uranium-233/234, Dissolved	5.483	5.852 J	pCi/L	NA
RD-85	7/14/2011	908.0	Uranium-233/234, Particulate	0.143 J	0.073 UJ	pCi/L	NA
RD-85	7/14/2011	908.0	Uranium-235, Dissolved	0.432	0.197 J	pCi/L	NA
RD-85	7/14/2011	6020	Antimony	0.00009 J	0.000082 J	mg/L	NA
RD-85	7/14/2011	6020	Antimony, Dissolved	0.000074 J	0.000088 J	mg/L	NA
RD-85	7/14/2011	6020	Arsenic	0.00042 J	0.00043 J	mg/L	NA
RD-85	7/14/2011	6020	Arsenic, Dissolved	0.00041 J	0.00042 J	mg/L	NA
RD-85	7/14/2011	6020	Barium	0.039	0.039	mg/L	0.0
RD-85	7/14/2011	6020	Barium, Dissolved	0.039	0.038	mg/L	2.6
RD-85	7/14/2011	6020	Cadmium	0.00068 J	0.00079 J	mg/L	NA
RD-85	7/14/2011	6020	Cadmium, Dissolved	0.0008 J	0.00081 J	mg/L	NA
RD-85	7/14/2011	6020	Cobalt	0.00013 J	0.00013 J	mg/L	NA
RD-85	7/14/2011	6020	Cobalt, Dissolved	0.00011 J	0.00011 J	mg/L	NA
RD-85	7/14/2011	6020	Copper	0.00069 J	0.00056 U	mg/L	NA
RD-85	7/14/2011	6020	Copper, Dissolved	0.00058 J	0.00056 U	mg/L	NA
RD-85	7/14/2011	6020	Nickel	0.0026	0.0026	mg/L	NA
RD-85	7/14/2011	6020	Nickel, Dissolved	0.0023	0.0022	mg/L	NA
RD-85	7/14/2011	6020	Thallium	0.000038 J	0.000037 J	mg/L	NA
RD-85	7/14/2011	6020	Thallium, Dissolved	0.000035 J	0.000036 J	mg/L	NA
RD-85	7/14/2011	6020	Vanadium	0.00087 J	0.00087 J	mg/L	NA
RD-85	7/14/2011	6020	Vanadium, Dissolved	0.00077 J	0.0008 J	mg/L	NA

TABLE B-2
SUMMARY OF THIRD QUARTER 2011 FIELD DUPLICATE SAMPLE RESULTS
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Analytical Method	Parameter	Duplicate Sample	Primary Sample	Units	RPD
				Result	Result		
RD-85	7/14/2011	6020	Zinc	0.0029 J	0.0026 J	mg/L	NA
RD-85	7/14/2011	6020	Zinc, Dissolved	0.0029 J	0.0031 J	mg/L	NA
RD-85	7/14/2011	6010B	Sodium	86	87	mg/L	1.2
RD-85	7/14/2011	6010B	Sodium, Dissolved	87	86	mg/L	1.2
RD-85	7/14/2011	8260B	Acetone	4.5 J	2.3 J	µg/L	NA
RD-85	7/14/2011	8260B SIM	1,4-Dioxane	0.87 J	0.64 U	µg/L	NA
RS-33	7/26/2011	1625M	n-Nitrosodimethylamine	0.25	0.21	µg/L	17
RS-34	7/21/2011	8290	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	1.8 J	1.5 U	pg/L	NA
RS-34	7/21/2011	8290	Octachlorodibenzofuran	1.9 U	3.1 J	pg/L	NA
RS-34	7/21/2011	8290	Octachlorodibenzo-p-dioxin	16 J	17 J	pg/L	NA
SH-02	7/20/2011	1625M	n-Nitrosodimethylamine	0.093	0.087	µg/L	6.7
SH-04	7/20/2011	1625M	n-Nitrosodimethylamine	0.14	0.14	µg/L	0.0
SH-04	7/20/2011	8270C	Diethyl phthalate	0.41 U	0.46 J	µg/L	NA
SH-11	7/20/2011	8270C	bis(2-Ethylhexyl) phthalate	0.59 J	0.59 U	µg/L	NA

RPDs are only calculated when an analyte is detected in both the primary and duplicate samples at concentrations exceeding five times their RLs. Results in bold exceed the acceptance criterion of 35.

NOTES AND ABBREVIATIONS

µg/L - micrograms per liter

mg/L - milligrams per liter

pg/L - picograms per liter

pCi/L - picocuries per liter

NA - not applicable

RPD - relative percent difference

U - the result is not detected above the method detection limit or reporting limit

UJ - the result is not detected; however, the MDL/RL is qualified as estimated

J - result is estimated

TABLE B-3
SUMMARY OF THIRD QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
ES-01	7/27/2011	Primary Sample	300.0	Nitrate-NO3	0.51	mg/L	Primary Result	J	J	V	TR	26097A
ES-01	7/27/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	130	µg/L	Primary Result		J	V	S, E	26097A
ES-01	7/27/2011	Primary Sample	8260B	1,1-Dichloroethene	0.95	µg/L	Primary Result	J	J	V	TR	26097A
ES-01	7/27/2011	Primary Sample	8260B	Trichloroethene	260	µg/L	Primary Result		J	V	S	26097A
ES-01	7/27/2011	Primary Sample	8260B SIM	1,4-Dioxane	1.2	µg/L	Primary Result	J	J	V	TR	26097A
ES-14	7/22/2011	Primary Sample	8260B	1,1-Dichloroethane	0.31	µg/L	Primary Result	J	J	V	S, TR	26050D
ES-14	7/22/2011	Primary Sample	8260B	1,1-Dichloroethene	2.2	µg/L	Primary Result		J	V	S	26050D
ES-14	7/22/2011	Primary Sample	8260B	Acetone	3.4	µg/L	Primary Result	J	J	V	S, TR	26050D
ES-14	7/22/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	4.6	µg/L	Primary Result	J	J	V	S, TR	26050D
ES-14	7/22/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	0.52	µg/L	Primary Result	J	J	V	S, TR	26050D
ES-14	7/22/2011	Primary Sample	8260B	Trichloroethene	1.4	µg/L	Primary Result		J	V	S	26050D
ES-17	7/26/2011	Field Duplicate	8260B	1,1-Dichloroethane	3.9	µg/L	Primary Result	J	J	IV	S, TR	26041C
ES-17	7/26/2011	Field Duplicate	8260B	1,1,1-Trichloroethane	4.7	µg/L	Primary Result	J	J	IV	S, TR	26041C
ES-17	7/26/2011	Field Duplicate	8260B	1,1-Dichloroethene	16	µg/L	Primary Result		J	IV	S	26041C
ES-17	7/26/2011	Field Duplicate	8260B	Acetonitrile	96	µg/L	Primary Result	U	UJ	IV	R	26041C
ES-17	7/26/2011	Field Duplicate	8260B	cis-1,2-Dichloroethene	280	µg/L	Primary Result		J	IV	S	26041C
ES-17	7/26/2011	Field Duplicate	8260B	Dichlorodifluoromethane	6.1	µg/L	Primary Result	J	J	IV	C, S, TR	26041C
ES-17	7/26/2011	Field Duplicate	8260B	Trichloroethene	1900	µg/L	Primary Result		J	IV	S	26041C
ES-17	7/26/2011	Field Duplicate	8260B	Trichlorofluoromethane	2.9	µg/L	Primary Result	U	UJ	IV	C	26041C
ES-17	7/26/2011	Field Duplicate	8260B	Isobutanol	370	µg/L	Primary Result	U	UJ	IV	R	26041C
ES-17	7/26/2011	Primary Sample	350.1	Ammonia-N	0.087	mg/L	Primary Result	JB	U	V	B	26041C
ES-17	7/26/2011	Primary Sample	8260B	1,1-Dichloroethane	3.5	µg/L	Primary Result	J	J	IV	S, TR	26041C
ES-17	7/26/2011	Primary Sample	8260B	1,1-Dichloroethene	15	µg/L	Primary Result		J	IV	S	26041C
ES-17	7/26/2011	Primary Sample	8260B	1,1,1-Trichloroethane	4.4	µg/L	Primary Result	J	J	IV	S, TR	26041C
ES-17	7/26/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	3100	µg/L	Primary Result		J	IV	S	26041C
ES-17	7/26/2011	Primary Sample	8260B	Acetonitrile	96	µg/L	Primary Result	U	UJ	IV	R	26041C
ES-17	7/26/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	260	µg/L	Primary Result		J	IV	S	26041C
ES-17	7/26/2011	Primary Sample	8260B	Dichlorodifluoromethane	6.2	µg/L	Primary Result	J	J	IV	C, S, TR	26041C
ES-17	7/26/2011	Primary Sample	8260B	Isobutanol	370	µg/L	Primary Result	U	UJ	IV	R	26041C
ES-17	7/26/2011	Primary Sample	8260B	Trichloroethene	1900	µg/L	Primary Result		J	IV	S	26041C
ES-17	7/26/2011	Primary Sample	8260B	Trichlorofluoromethane	2.9	µg/L	Primary Result	U	UJ	IV	C	26041C
ES-17	7/26/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26034E
ES-17	7/26/2011	Split Sample	8260B	1,1,1,2-Tetrachloroethane	11	µg/L	Primary Result	U,C,L	UJ	IV	C	26111A
ES-17	7/26/2011	Split Sample	8260B	Acetone	180	µg/L	Primary Result	U	UJ	IV	C	26111A
ES-17	7/26/2011	Split Sample	8260B	Acetonitrile	360	µg/L	Primary Result	U	UJ	IV	C, R	26111A
ES-17	7/26/2011	Split Sample	8260B	Allyl chloride	28	µg/L	Primary Result	U	UJ	IV	C	26111A
ES-17	7/26/2011	Split Sample	8260B	Carbon Tetrachloride	11	µg/L	Primary Result	U,C,L	UJ	IV	C	26111A
ES-17	7/26/2011	Split Sample	8260B	Methyl isobutyl ketone (MIBK)	140	µg/L	Primary Result	U	UJ	IV	C	26111A
ES-17	7/26/2011	Split Sample	8260B	Dibromochloromethane	16	µg/L	Primary Result	U	UJ	IV	C	26111A
ES-17	7/26/2011	Split Sample	8260B	Methyl ethyl ketone	190	µg/L	Primary Result	U	UJ	IV	C	26111A
ES-17	7/26/2011	Split Sample	8260B	Vinyl acetate	40	µg/L	Primary Result	U	UJ	IV	C	26111A
ES-17	7/26/2011	Split Sample	8260B	Ethyl cyanide	280	µg/L	Primary Result	U	UJ	IV	C, R	26111A
ES-26	7/26/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	3.6	µg/L	Primary Result	J	J	V	S, TR	26041C
ES-26	7/26/2011	Primary Sample	300.0	Fluoride	0.37	mg/L	Primary Result	J	J	V	TR	26041C

TABLE B-3
SUMMARY OF THIRD QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
ES-26	7/26/2011	Primary Sample	8260B	Acetone	10	µg/L	Primary Result	JB	UJ	V	B, S, T	26041C
ES-26	7/26/2011	Primary Sample	8260B	m-Xylene & p-Xylene	0.34	µg/L	Primary Result	U	UJ	V	Q	26041C
ES-26	7/26/2011	Primary Sample	8260B SIM	1,4-Dioxane	0.75	µg/L	Primary Result	J	J	V	TR	26041C
ES-26	7/26/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	5.9	µg/L	Primary Result		J	V	S	26041C
ES-26	7/26/2011	Primary Sample	8260B	o-Xylene	0.19	µg/L	Primary Result	U	UJ	V	Q	26041C
ES-26	7/26/2011	Primary Sample	8260B	Trichloroethene	1.4	µg/L	Primary Result		J	V	S	26041C
ES-26	7/26/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26034E
ES-27	7/26/2011	Primary Sample	350.1	Ammonia-N	0.078	mg/L	Primary Result	JB	U	V	B	26041C
ES-27	7/26/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	1600	µg/L	Primary Result		J	V	S	26041C
ES-27	7/26/2011	Primary Sample	8260B	Acetone	310	µg/L	Primary Result	B	J	V	S	26041C
ES-27	7/26/2011	Primary Sample	8260B	Trichloroethene	5.9	µg/L	Primary Result		J	V	S	26041C
ES-27	7/26/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26034E
ES-29	7/22/2011	Primary Sample	8260B	1,1-Dichloroethene	0.25	µg/L	Primary Result	J	J	V	TR	26050D
HAR-01	8/9/2011	Field Duplicate	1625M	n-Nitrosodimethylamine	0.032	µg/L	Primary Result	HTV	J	V	H	26171I
HAR-01	8/9/2011	Field Duplicate	8151A	Dinoseb	0.96	µg/L	Primary Result	JB	U	IV	B, C, F	26171H
HAR-01	8/9/2011	Field Duplicate	9012	Cyanides	0.003	mg/L	Primary Result	J	U	IV	F	26171H
HAR-01	8/9/2011	Primary Sample	1625M	n-Nitrosodimethylamine	0.027	µg/L	Primary Result	HTV	J	V	H	26171H
HAR-01	8/9/2011	Primary Sample	8151A	Dinoseb	0.95	µg/L	Primary Result	JB	U	IV	B, C, F	26171H
HAR-01	8/9/2011	Primary Sample	8260B	1,1-Dichloroethane	0.44	µg/L	Primary Result	U	UJ	V	S	26171H
HAR-01	8/9/2011	Primary Sample	8260B	1,1-Dichloroethene	0.46	µg/L	Primary Result	U	UJ	V	S	26171H
HAR-01	8/9/2011	Primary Sample	8260B	1,2-Dichloroethane	0.26	µg/L	Primary Result	U	UJ	V	S	26171H
HAR-01	8/9/2011	Primary Sample	8260B	Acetone	3.8	µg/L	Primary Result	U	UJ	V	S	26171H
HAR-01	8/9/2011	Primary Sample	8260B	Benzene	0.32	µg/L	Primary Result	U	UJ	V	S	26171H
HAR-01	8/9/2011	Primary Sample	8260B	Carbon Tetrachloride	0.38	µg/L	Primary Result	U	UJ	V	S	26171H
HAR-01	8/9/2011	Primary Sample	8260B	Ethylbenzene	0.32	µg/L	Primary Result	U	UJ	V	S	26171H
HAR-01	8/9/2011	Primary Sample	8260B	Isopropanol	26	µg/L	Primary Result	U	UJ	V	S	26171H
HAR-01	8/9/2011	Primary Sample	8260B	1,1,1-Trichloroethane	0.32	µg/L	Primary Result	U	UJ	V	S	26171H
HAR-01	8/9/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	0.84	µg/L	Primary Result	U	UJ	V	S	26171H
HAR-01	8/9/2011	Primary Sample	8260B	1,1,2-Trichloroethane	0.54	µg/L	Primary Result	U	UJ	V	S	26171H
HAR-01	8/9/2011	Primary Sample	8260B	Chloroform	0.32	µg/L	Primary Result	U	UJ	V	S	26171H
HAR-01	8/9/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	4.3	µg/L	Primary Result		J	V	S	26171H
HAR-01	8/9/2011	Primary Sample	8260B	m-Xylene & p-Xylene	0.68	µg/L	Primary Result	U	UJ	V	S	26171H
HAR-01	8/9/2011	Primary Sample	8260B	Methyl ethyl ketone	4	µg/L	Primary Result	U	UJ	V	S	26171H
HAR-01	8/9/2011	Primary Sample	8260B	Methylene chloride	0.64	µg/L	Primary Result	U	UJ	V	S	26171H
HAR-01	8/9/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	0.3	µg/L	Primary Result	U	UJ	V	S	26171H
HAR-01	8/9/2011	Primary Sample	8260B	o-Xylene	0.38	µg/L	Primary Result	U	UJ	V	S	26171H
HAR-01	8/9/2011	Primary Sample	8260B	Tetrachloroethene	0.4	µg/L	Primary Result	U	UJ	V	S	26171H
HAR-01	8/9/2011	Primary Sample	8260B	Toluene	0.34	µg/L	Primary Result	U	UJ	V	S	26171H
HAR-01	8/9/2011	Primary Sample	8260B	Trichlorofluoromethane	0.58	µg/L	Primary Result	U	UJ	V	S	26171H
HAR-01	8/9/2011	Primary Sample	8260B	Vinyl chloride	0.2	µg/L	Primary Result	U	UJ	V	S	26171H
HAR-01	8/9/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26097H
HAR-01	8/9/2011	Primary Sample	9012	Cyanides	0.0022	mg/L	Primary Result	J	U	IV	F	26171H
HAR-01	8/9/2011	Primary Sample	9040B	pH	7.18	pH Units	Primary Result	HTV	J	V	H	26171H
HAR-01	8/9/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	9.5	µg/L	Primary Result	JB	U	V	B	26171H

TABLE B-3
SUMMARY OF THIRD QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
HAR-01	8/9/2011	Split Sample	8151A	2,4-Dichlorophenoxyacetic Acid (2,4-D)	0.21	µg/L	Primary Result	U	UJ	IV	C	26193A
HAR-04	8/5/2011	Field Duplicate	8260B	1,1,1-Trichloroethane	2.4	µg/L	Primary Result		J	V	S	26171E
HAR-04	8/5/2011	Field Duplicate	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	0.84	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-04	8/5/2011	Field Duplicate	8260B	1,1,2-Trichloroethane	0.54	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-04	8/5/2011	Field Duplicate	8260B	Chloroform	0.32	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-04	8/5/2011	Field Duplicate	8260B	cis-1,2-Dichloroethene	34	µg/L	Primary Result		J	V	S	26171E
HAR-04	8/5/2011	Field Duplicate	314.0	Perchlorate	0.47	µg/L	Primary Result	J	J	V	TR	26171E
HAR-04	8/5/2011	Field Duplicate	8260B	1,1-Dichloroethane	0.44	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-04	8/5/2011	Field Duplicate	8260B	1,1-Dichloroethene	0.46	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-04	8/5/2011	Field Duplicate	8260B	1,2-Dichloroethane	0.26	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-04	8/5/2011	Field Duplicate	8260B	Acetone	3.8	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-04	8/5/2011	Field Duplicate	8260B	Benzene	0.32	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-04	8/5/2011	Field Duplicate	8260B	Carbon Tetrachloride	0.38	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-04	8/5/2011	Field Duplicate	8260B	Ethylbenzene	0.32	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-04	8/5/2011	Field Duplicate	8260B	Isopropanol	26	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-04	8/5/2011	Field Duplicate	8260B	m-Xylene & p-Xylene	0.68	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-04	8/5/2011	Field Duplicate	8260B	Methyl ethyl ketone	4	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-04	8/5/2011	Field Duplicate	8260B	Toluene	0.34	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-04	8/5/2011	Field Duplicate	8260B	Vinyl chloride	0.2	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-04	8/5/2011	Field Duplicate	8260B	Methylene chloride	10	µg/L	Primary Result	JB	UJ	V	B, S, T	26171E
HAR-04	8/5/2011	Field Duplicate	8260B	o-Xylene	0.38	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-04	8/5/2011	Field Duplicate	8260B	Tetrachloroethene	0.4	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-04	8/5/2011	Field Duplicate	8260B	trans-1,2-Dichloroethene	0.3	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-04	8/5/2011	Field Duplicate	8260B	Trichlorofluoromethane	0.58	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-04	8/5/2011	Field Duplicate	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26136D
HAR-04	8/5/2011	Primary Sample	350.1	Ammonia-N	0.055	mg/L	Primary Result	J	J	V	TR	26171E
HAR-04	8/5/2011	Field Duplicate	8270C	bis(2-Ethylhexyl) phthalate	1.9	µg/L	Primary Result	J	J	V	TR	26171E
HAR-04	8/5/2011	Primary Sample	314.0	Perchlorate	0.41	µg/L	Primary Result	J	J	V	TR	26171E
HAR-04	8/5/2011	Primary Sample	8260B	1,1-Dichloroethane	0.44	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-04	8/5/2011	Primary Sample	8260B	1,1-Dichloroethene	0.46	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-04	8/5/2011	Primary Sample	8260B	1,2-Dichloroethane	0.26	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-04	8/5/2011	Primary Sample	8260B	Acetone	3.8	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-04	8/5/2011	Primary Sample	8260B	Benzene	0.32	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-04	8/5/2011	Primary Sample	8260B	Carbon Tetrachloride	0.38	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-04	8/5/2011	Primary Sample	8260B	Ethylbenzene	0.32	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-04	8/5/2011	Primary Sample	8260B	Isopropanol	26	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-04	8/5/2011	Primary Sample	8260B	1,1,1-Trichloroethane	2.1	µg/L	Primary Result		J	V	S	26171E
HAR-04	8/5/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	0.84	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-04	8/5/2011	Primary Sample	8260B	1,1,2-Trichloroethane	0.54	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-04	8/5/2011	Primary Sample	8260B	Chloroform	0.32	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-04	8/5/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	29	µg/L	Primary Result		J	V	S	26171E
HAR-04	8/5/2011	Primary Sample	8260B	m-Xylene & p-Xylene	0.68	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-04	8/5/2011	Primary Sample	8260B	Methyl ethyl ketone	4	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-04	8/5/2011	Primary Sample	8260B	Methylene chloride	10	µg/L	Primary Result	JB	UJ	V	B, S, T	26171E

TABLE B-3
SUMMARY OF THIRD QUARTER 2011 DATA QUALIFICATION
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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
HAR-04	8/5/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	0.3	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-04	8/5/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	1.8	µg/L	Primary Result	J	J	V	TR	26171E
HAR-04	8/5/2011	Primary Sample	8260B	o-Xylene	0.38	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-04	8/5/2011	Primary Sample	8260B	Tetrachloroethene	0.4	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-04	8/5/2011	Primary Sample	8260B	Toluene	0.34	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-04	8/5/2011	Primary Sample	8260B	Trichloroethene	600	µg/L	Primary Result		J	V	S	26171E
HAR-04	8/5/2011	Primary Sample	8260B	Trichlorofluoromethane	0.58	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-04	8/5/2011	Primary Sample	8260B	Vinyl chloride	0.2	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-04	8/5/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26136D
HAR-07	8/2/2011	Primary Sample	300.0	Fluoride	0.3	mg/L	Primary Result	J	J	V	TR	26050F
HAR-07	8/2/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	1000	µg/L	Primary Result		J	V	E	26050F
HAR-07	8/2/2011	Primary Sample	350.1	Ammonia-N	0.078	mg/L	Primary Result	JB	U	V	B	26050F
HAR-07	8/2/2011	Primary Sample	8260B	Tetrachloroethene	1.3	µg/L	Primary Result	J	J	V	TR	26050F
HAR-07	8/2/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26090J
HAR-07	8/2/2011	Split Sample	8290	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	0.98	pg/L	Primary Result	J B QC	U	IV	B	26136J
HAR-07	8/2/2011	Split Sample	8290	1,2,3,4,6,7,8-Heptachlorodibenzofuran	1.2	pg/L	Primary Result	J B QC	U	IV	B	26136J
HAR-07	8/2/2011	Split Sample	8290	1,2,3,4,7,8,9-Heptachlorodibenzofuran	2.2	pg/L	Primary Result	J B	U	IV	B	26136J
HAR-07	8/2/2011	Split Sample	8290	1,2,3,6,7,8-Hexachlorodibenzofuran	0.97	pg/L	Primary Result	J B	U	IV	B	26136J
HAR-07	8/2/2011	Split Sample	8290	1,2,3,4,7,8-Hexachlorodibenzofuran	3.1	pg/L	Primary Result	J B	U	IV	B	26136J
HAR-07	8/2/2011	Split Sample	8290	Heptachlorodibenzo-p-dioxins	1.9	pg/L	Primary Result	J B QC	U	IV	B	26136J
HAR-07	8/2/2011	Split Sample	8290	Heptachlorodibenzofurans	5.6	pg/L	Primary Result	J B QC	U	IV	B	26136J
HAR-07	8/2/2011	Split Sample	8290	Octachlorodibenzofuran	2.5	pg/L	Primary Result	J B	U	IV	B	26136J
HAR-07	8/2/2011	Split Sample	8290	Hexachlorodibenzofurans	6.3	pg/L	Primary Result	J B QC	U	IV	B	26136J
HAR-07	8/2/2011	Split Sample	8290	Octachlorodibenzo-p-dioxin	3.8	pg/L	Primary Result	J B	U	IV	B	26136J
HAR-03	8/8/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	9.8	µg/L	Primary Result	JB	U	V	B	26136E
HAR-03	8/8/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26136F
HAR-03	8/8/2011	Primary Sample	9040B	pH	6.64	pH Units	Primary Result	HTV	J	V	H	26136E
HAR-05	7/25/2011	Primary Sample	300.0	Fluoride	0.21	mg/L	Primary Result	J	J	V	TR	26050E
HAR-05	7/25/2011	Primary Sample	300.0	Nitrate-NO3	0.91	mg/L	Primary Result	J	J	V	TR	26050E
HAR-05	7/25/2011	Primary Sample	8260B	1,1,1-Trichloroethane	0.16	µg/L	Primary Result	U	UJ	V	S	26050E
HAR-05	7/25/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	0.42	µg/L	Primary Result	U	UJ	V	S	26050E
HAR-05	7/25/2011	Primary Sample	8260B	1,1,2-Trichloroethane	0.27	µg/L	Primary Result	U	UJ	V	S	26050E
HAR-05	7/25/2011	Primary Sample	8260B	Acetone	1.9	µg/L	Primary Result	U	UJ	V	S	26050E
HAR-05	7/25/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	0.15	µg/L	Primary Result	U	UJ	V	S	26050E
HAR-05	7/25/2011	Primary Sample	8260B	Ethylbenzene	0.16	µg/L	Primary Result	U	UJ	V	S	26050E
HAR-05	7/25/2011	Primary Sample	8260B	Methylene chloride	0.32	µg/L	Primary Result	U	UJ	V	S	26050E
HAR-05	7/25/2011	Primary Sample	8260B	o-Xylene	0.19	µg/L	Primary Result	U	UJ	V	S	26050E
HAR-05	7/25/2011	Primary Sample	8260B	Tetrachloroethene	0.2	µg/L	Primary Result	U	UJ	V	S	26050E
HAR-05	7/25/2011	Primary Sample	314.0	Perchlorate	0.55	µg/L	Primary Result	J	J	V	TR	26050E
HAR-05	7/25/2011	Primary Sample	350.1	Ammonia-N	0.11	mg/L	Primary Result	JB	U	V	B	26050E
HAR-05	7/25/2011	Primary Sample	8260B	1,1-Dichloroethane	0.22	µg/L	Primary Result	U	UJ	V	S	26050E
HAR-05	7/25/2011	Primary Sample	8260B	1,1-Dichloroethene	0.23	µg/L	Primary Result	U	UJ	V	S	26050E
HAR-05	7/25/2011	Primary Sample	8260B	1,2-Dichloroethane	0.13	µg/L	Primary Result	U	UJ	V	S	26050E
HAR-05	7/25/2011	Primary Sample	8260B	Benzene	0.16	µg/L	Primary Result	U	UJ	V	S	26050E

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
HAR-05	7/25/2011	Primary Sample	8260B	Carbon Tetrachloride	0.19	µg/L	Primary Result	U	UJ	V	S	26050E
HAR-05	7/25/2011	Primary Sample	8260B	Chloroform	0.16	µg/L	Primary Result	U	UJ	V	S	26050E
HAR-05	7/25/2011	Primary Sample	8260B	Isopropanol	13	µg/L	Primary Result	U	UJ	V	S	26050E
HAR-05	7/25/2011	Primary Sample	8260B	m-Xylene & p-Xylene	0.34	µg/L	Primary Result	U	UJ	V	S	26050E
HAR-05	7/25/2011	Primary Sample	8260B	Methyl ethyl ketone	2	µg/L	Primary Result	U	UJ	V	S	26050E
HAR-05	7/25/2011	Primary Sample	8260B	Toluene	0.17	µg/L	Primary Result	U	UJ	V	S	26050E
HAR-05	7/25/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	0.15	µg/L	Primary Result	U	UJ	V	S	26050E
HAR-05	7/25/2011	Primary Sample	8260B	Trichloroethene	0.66	µg/L	Primary Result	J	J	V	S, TR	26050E
HAR-05	7/25/2011	Primary Sample	8260B	Trichlorofluoromethane	0.29	µg/L	Primary Result	U	UJ	V	S	26050E
HAR-05	7/25/2011	Primary Sample	8260B	Vinyl chloride	0.1	µg/L	Primary Result	U	UJ	V	S	26050E
HAR-05	7/25/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26034D
HAR-05	7/25/2011	Primary Sample	9040B	pH	7.46	pH Units	Primary Result	HTV	J	V	H	26050E
HAR-08	8/2/2011	Primary Sample	300.0	Fluoride	0.2	mg/L	Primary Result	J	J	V	TR	26050F
HAR-08	8/2/2011	Primary Sample	8260B	1,1,2-Trichloroethane	0.27	µg/L	Primary Result	U	UJ	V	S	26050F
HAR-08	8/2/2011	Primary Sample	8260B	1,1-Dichloroethane	0.22	µg/L	Primary Result	U	UJ	V	S	26050F
HAR-08	8/2/2011	Primary Sample	8260B	1,1-Dichloroethene	0.23	µg/L	Primary Result	U	UJ	V	S	26050F
HAR-08	8/2/2011	Primary Sample	8260B	Acetone	10	µg/L	Primary Result	J	UJ	V	S, T	26050F
HAR-08	8/2/2011	Primary Sample	8260B	Benzene	0.16	µg/L	Primary Result	U	UJ	V	S	26050F
HAR-08	8/2/2011	Primary Sample	8260B	Carbon Tetrachloride	0.19	µg/L	Primary Result	U	UJ	V	S	26050F
HAR-08	8/2/2011	Primary Sample	8260B	Ethylbenzene	0.16	µg/L	Primary Result	U	UJ	V	S	26050F
HAR-08	8/2/2011	Primary Sample	8260B	m-Xylene & p-Xylene	0.34	µg/L	Primary Result	U	UJ	V	S	26050F
HAR-08	8/2/2011	Primary Sample	8260B	Methyl ethyl ketone	2	µg/L	Primary Result	U	UJ	V	S	26050F
HAR-08	8/2/2011	Primary Sample	8260B	Toluene	0.17	µg/L	Primary Result	U	UJ	V	S	26050F
HAR-08	8/2/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	1.9	µg/L	Primary Result		J	V	S	26050F
HAR-08	8/2/2011	Primary Sample	350.1	Ammonia-N	0.086	mg/L	Primary Result	JB	U	V	B	26050F
HAR-08	8/2/2011	Primary Sample	8260B	1,1,1-Trichloroethane	0.16	µg/L	Primary Result	U	UJ	V	S	26050F
HAR-08	8/2/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	0.42	µg/L	Primary Result	U	UJ	V	S	26050F
HAR-08	8/2/2011	Primary Sample	8260B	1,2-Dichloroethane	0.13	µg/L	Primary Result	U	UJ	V	S	26050F
HAR-08	8/2/2011	Primary Sample	8260B	Chloroform	0.16	µg/L	Primary Result	U	UJ	V	S	26050F
HAR-08	8/2/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	19	µg/L	Primary Result		J	V	S	26050F
HAR-08	8/2/2011	Primary Sample	8260B	Methylene chloride	5	µg/L	Primary Result	JB	UJ	V	B, S, T	26050F
HAR-08	8/2/2011	Primary Sample	8260B	o-Xylene	0.19	µg/L	Primary Result	U	UJ	V	S	26050F
HAR-08	8/2/2011	Primary Sample	8260B	Tetrachloroethene	0.2	µg/L	Primary Result	U	UJ	V	S	26050F
HAR-08	8/2/2011	Primary Sample	8260B	Trichloroethene	1.4	µg/L	Primary Result		J	V	S	26050F
HAR-08	8/2/2011	Primary Sample	8260B	Trichlorofluoromethane	0.29	µg/L	Primary Result	U	UJ	V	S	26050F
HAR-08	8/2/2011	Primary Sample	8260B	Vinyl chloride	7.4	µg/L	Primary Result		J	V	S	26050F
HAR-08	8/2/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26090J
HAR-08	8/2/2011	Primary Sample	8260B SIM	1,4-Dioxane	1.1	µg/L	Primary Result	J	J	V	TR	26050F
HAR-09	8/4/2011	Field Duplicate	8151A	Dinoseb	0.23	µg/L	Primary Result	J	J	IV	C, TR	26097G
HAR-09	8/4/2011	Primary Sample	350.1	Ammonia-N	0.3	mg/L	Primary Result	J	J	V	TR	26097G
HAR-09	8/4/2011	Primary Sample	300.0	Fluoride	0.3	mg/L	Primary Result	J	J	V	TR	26097G
HAR-09	8/4/2011	Primary Sample	8151A	Dinoseb	0.22	µg/L	Primary Result	J	J	IV	C, TR	26097G
HAR-09	8/4/2011	Primary Sample	8260B	Methylene chloride	5	µg/L	Primary Result	JB	U	V	B, T	26097G
HAR-09	8/4/2011	Primary Sample	8260B SIM	1,4-Dioxane	1.3	µg/L	Primary Result	J	J	V	TR	26097G

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
HAR-09	8/4/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	1.8	µg/L	Primary Result	J	J	V	TR	26097G
HAR-09	8/4/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26090L
HAR-11	7/27/2011	Primary Sample	350.1	Ammonia-N	0.15	mg/L	Primary Result	JB	U	V	B	26097A
HAR-11	7/27/2011	Primary Sample	8015B	Kerosene Range (C15-C20)	0.19	mg/L	Primary Result	J	J	V	TR	26097A
HAR-11	7/27/2011	Primary Sample	8015B	Diesel Range Organics (C21-C30)	0.15	mg/L	Primary Result	J	J	V	TR	26097A
HAR-11	7/27/2011	Primary Sample	8260B	Acetone	10	µg/L	Primary Result	J	U	V	T	26097A
HAR-11	7/27/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	0.32	µg/L	Primary Result	J	J	V	TR	26097A
HAR-11	7/27/2011	Primary Sample	8270C	Diethyl phthalate	0.61	µg/L	Primary Result	J	J	V	TR	26097A
HAR-11	7/27/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26041D
HAR-12	7/29/2011	Field Duplicate	8151A	Dinoseb	0.18	µg/L	Primary Result	U	UJ	IV	C	26090H
HAR-12	7/29/2011	Primary Sample	1625M	n-Nitrosodimethylamine	0.0067	µg/L	Lab Repeat Analysis	HTV	J	V	H	26090H
HAR-12	7/29/2011	Primary Sample	350.1	Ammonia-N	0.08	mg/L	Primary Result	JB	U	V	B	26090H
HAR-12	7/29/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	0.5	µg/L	Primary Result	J	J	V	S, TR	26090H
HAR-12	7/29/2011	Primary Sample	8260B	Acetone	10	µg/L	Primary Result	J	UJ	V	L, S, T	26090H
HAR-12	7/29/2011	Primary Sample	8151A	Dinoseb	0.18	µg/L	Primary Result	U	UJ	IV	C	26090H
HAR-12	7/29/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26041F
HAR-12	7/29/2011	Primary Sample	DV-WC-0077	1,1-Dimethylhydrazine	5.9	µg/L	Primary Result	J	J	V	TR	26090H
HAR-13	7/29/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	9.9	µg/L	Primary Result	JB	U	V	B, F	26090H
HAR-16	8/5/2011	Field Duplicate	8151A	Dinoseb	0.18	µg/L	Primary Result	U	UJ	IV	C	26171E
HAR-16	8/5/2011	Primary Sample	8151A	Dinoseb	0.18	µg/L	Primary Result	U	UJ	IV	C	26171E
HAR-16	8/5/2011	Primary Sample	8260B	1,1-Dichloroethane	2.2	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-16	8/5/2011	Primary Sample	8260B	1,1-Dichloroethene	4.8	µg/L	Primary Result	J	J	V	S, TR	26171E
HAR-16	8/5/2011	Primary Sample	8260B	1,2-Dichloroethane	1.3	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-16	8/5/2011	Primary Sample	8260B	Acetone	19	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-16	8/5/2011	Primary Sample	8260B	Benzene	1.6	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-16	8/5/2011	Primary Sample	8260B	Carbon Tetrachloride	1.9	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-16	8/5/2011	Primary Sample	8260B	Ethylbenzene	1.6	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-16	8/5/2011	Primary Sample	8260B	Isopropanol	130	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-16	8/5/2011	Primary Sample	300.0	Fluoride	0.41	mg/L	Primary Result	J	J	V	TR	26171E
HAR-16	8/5/2011	Primary Sample	8260B	1,1,1-Trichloroethane	1.6	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-16	8/5/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	4.2	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-16	8/5/2011	Primary Sample	8260B	1,1,2-Trichloroethane	2.7	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-16	8/5/2011	Primary Sample	8260B	Chloroform	1.6	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-16	8/5/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	27	µg/L	Primary Result	U	J	V	S	26171E
HAR-16	8/5/2011	Primary Sample	8260B	m-Xylene & p-Xylene	3.4	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-16	8/5/2011	Primary Sample	8260B	Methyl ethyl ketone	20	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-16	8/5/2011	Primary Sample	8260B	Toluene	1.7	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-16	8/5/2011	Primary Sample	8260B	Methylene chloride	50	µg/L	Primary Result	JB	UJ	V	B, S, T	26171E
HAR-16	8/5/2011	Primary Sample	8260B	o-Xylene	1.9	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-16	8/5/2011	Primary Sample	8260B	Tetrachloroethene	2	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-16	8/5/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	1.5	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-16	8/5/2011	Primary Sample	8260B	Trichloroethene	2100	µg/L	Primary Result	U	J	V	S	26171E
HAR-16	8/5/2011	Primary Sample	8260B	Trichlorofluoromethane	2.9	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-16	8/5/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26136D

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
HAR-16	8/5/2011	Split Sample	8151A	2,4,5-T	0.13	µg/L	Primary Result	U	UJ	IV	C	26171L
HAR-16	8/5/2011	Split Sample	8151A	2,4,5-Trichlorophenoxypropionic acid	0.11	µg/L	Primary Result	U	UJ	IV	C	26171L
HAR-16	8/5/2011	Primary Sample	8260B	Vinyl chloride	1	µg/L	Primary Result	U	UJ	V	S	26171E
HAR-16	8/5/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	1.7	µg/L	Primary Result	J	J	V	TR	26171E
HAR-16	8/5/2011	Split Sample	8151A	2,4-Dichlorophenoxyacetic Acid (2,4-D)	0.21	µg/L	Primary Result	U	UJ	IV	C	26171L
HAR-16	8/5/2011	Split Sample	8151A	Dinoseb	0.19	µg/L	Primary Result	U	UJ	IV	C	26171L
HAR-14	7/29/2011	Field Duplicate	8151A	Dinoseb	0.18	µg/L	Primary Result	U	UJ	IV	C	26090H
HAR-14	7/29/2011	Field Duplicate	8270C	1,4-Naphthoquinone	14	µg/L	Primary Result	U	UJ	V	C	26090H
HAR-14	7/29/2011	Field Duplicate	8270C	bis(2-Ethylhexyl) phthalate	10	µg/L	Primary Result	JB	U	V	B, F	26090H
HAR-14	7/29/2011	Field Duplicate	8270C	Methapyrilene	20	µg/L	Primary Result	U	UJ	V	C	26090H
HAR-14	7/29/2011	Field Duplicate	8270C	Methyl methanesulfonate	1	µg/L	Primary Result	U	UJ	V	C	26090H
HAR-14	7/29/2011	Field Duplicate	8270C	n-Nitrosodimethylamine	2.4	µg/L	Primary Result	J	J	V	TR	26090H
HAR-14	7/29/2011	Primary Sample	300.0	Fluoride	0.41	mg/L	Primary Result	J	J	V	TR	26090H
HAR-14	7/29/2011	Primary Sample	1625M	n-Nitrosodimethylamine	2	µg/L	Lab Repeat Analysis	HTV	J	V	H	26090H
HAR-14	7/29/2011	Primary Sample	350.1	Ammonia-N	0.084	mg/L	Primary Result	JB	U	V	B	26090H
HAR-14	7/29/2011	Primary Sample	8151A	Dinoseb	0.17	µg/L	Primary Result	U	UJ	IV	C	26090H
HAR-14	7/29/2011	Primary Sample	8260B	1,1,1-Trichloroethane	0.41	µg/L	Primary Result	J	J	V	S, TR	26090H
HAR-14	7/29/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	23	µg/L	Primary Result		J	V	S	26090H
HAR-14	7/29/2011	Primary Sample	8260B	Chloroform	1.4	µg/L	Primary Result		J	V	S	26090H
HAR-14	7/29/2011	Primary Sample	8260B	1,1-Dichloroethene	5.7	µg/L	Primary Result		J	V	S	26090H
HAR-14	7/29/2011	Primary Sample	8260B	Acetone	11	µg/L	Primary Result		UJ	V	L, S, T	26090H
HAR-14	7/29/2011	Primary Sample	8260B	Carbon Tetrachloride	0.61	µg/L	Primary Result	J	J	V	S, TR	26090H
HAR-14	7/29/2011	Primary Sample	8260B SIM	1,4-Dioxane	39	µg/L	Primary Result	J	J	V	TR	26090H
HAR-14	7/29/2011	Primary Sample	8270C	1,4-Naphthoquinone	14	µg/L	Primary Result	U	UJ	V	C	26090H
HAR-14	7/29/2011	Primary Sample	8260B	Trichloroethene	4.1	µg/L	Primary Result		J	V	S	26090H
HAR-14	7/29/2011	Primary Sample	8270C	Benzyl alcohol	10	µg/L	Primary Result	J	U	IV	F	26090H
HAR-14	7/29/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	10	µg/L	Primary Result	JB	U	V	B, F	26090H
HAR-14	7/29/2011	Primary Sample	8270C	n-Nitrosodimethylamine	2.3	µg/L	Primary Result	J	J	V	TR	26090H
HAR-14	7/29/2011	Primary Sample	8270C	Methapyrilene	20	µg/L	Primary Result	U	UJ	V	C	26090H
HAR-14	7/29/2011	Primary Sample	8270C	Methyl methanesulfonate	1	µg/L	Primary Result	U	UJ	V	C	26090H
HAR-14	7/29/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26041F
HAR-14	7/29/2011	Split Sample	8270C	4-Nitroquinoline-1-oxide	2.9	µg/L	Primary Result	U,C-2	UJ	IV	C	26111B
HAR-14	7/29/2011	Split Sample	8270C	5-Nitro-o-toluidine	2.9	µg/L	Primary Result	U	UJ	IV	C	26111B
HAR-14	7/29/2011	Split Sample	8270C	alpha, alpha-Dimethylphenethylamine	38	µg/L	Primary Result	U,C-2	UJ	IV	C	26111B
HAR-14	7/29/2011	Split Sample	8270C	p-Phenylenediamine	24	µg/L	Primary Result	UC-2	UJ	IV	C	26111B
HAR-15	7/20/2011	Primary Sample	350.1	Ammonia-N	0.25	mg/L	Primary Result	JB	U	V	B	26041A
HAR-15	7/20/2011	Primary Sample	8260B	Trichloroethene	0.22	µg/L	Primary Result	J	J	V	TR	26041A
HAR-15	7/20/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26034A
HAR-19	7/12/2011	Field Duplicate	1625M	n-Nitrosodimethylamine	0.0091	µg/L	Primary Result		J	V	L	26013A
HAR-19	7/12/2011	Field Duplicate	8015B	Kerosene Range (C15-C20)	0.034	mg/L	Primary Result	J	J	V	S, TR	26013A
HAR-19	7/12/2011	Field Duplicate	350.1	Ammonia-N	0.059	mg/L	Primary Result	JB	U	V	B	26013A
HAR-19	7/12/2011	Field Duplicate	8260B	1,1-Dichloroethene	0.86	µg/L	Primary Result	J	J	V	S, TR	26013A
HAR-19	7/12/2011	Field Duplicate	8260B	Acetone	3	µg/L	Primary Result	J	J	V	S, TR	26013A
HAR-19	7/12/2011	Field Duplicate	8260B	Vinyl chloride	16	µg/L	Primary Result		J	V	S	26013A

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
HAR-19	7/12/2011	Field Duplicate	8270C	bis(2-Ethylhexyl) phthalate	9.5	µg/L	Primary Result	JB	U	V	B	26013A
HAR-19	7/12/2011	Field Duplicate	8260B SIM	1,4-Dioxane	0.74	µg/L	Primary Result	J	J	V	TR	26013A
HAR-19	7/12/2011	Field Duplicate	8270C	Diethyl phthalate	0.37	µg/L	Primary Result	J	J	V	TR	26013A
HAR-19	7/12/2011	Field Duplicate	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	25950C
HAR-19	7/12/2011	Primary Sample	1625M	n-Nitrosodimethylamine	0.0091	µg/L	Primary Result		J	V	L	26013A
HAR-19	7/12/2011	Primary Sample	350.1	Ammonia-N	0.077	mg/L	Primary Result	JB	U	V	B	26013A
HAR-19	7/12/2011	Primary Sample	8015B	Diesel Range Organics (C8-C30)	0.074	mg/L	Primary Result	J	J	V	S, TR	26013A
HAR-19	7/12/2011	Primary Sample	8260B	1,1-Dichloroethene	0.77	µg/L	Primary Result	J	J	V	S, TR	26013A
HAR-19	7/12/2011	Primary Sample	8015B	Kerosene Range (C15-C20)	0.06	mg/L	Primary Result	J	J	V	S, TR	26013A
HAR-19	7/12/2011	Primary Sample	8260B	Acetone	2.1	µg/L	Primary Result	J	J	V	S, TR	26013A
HAR-19	7/12/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	320	µg/L	Primary Result		J	V	S	26013A
HAR-19	7/12/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	140	µg/L	Primary Result		J	V	S	26013A
HAR-19	7/12/2011	Primary Sample	8260B	Trichloroethene	200	µg/L	Primary Result		J	V	S	26013A
HAR-19	7/12/2011	Primary Sample	8260B	Vinyl chloride	15	µg/L	Primary Result		J	V	S	26013A
HAR-19	7/12/2011	Primary Sample	8260B SIM	1,4-Dioxane	0.71	µg/L	Primary Result	J	J	V	TR	26013A
HAR-19	7/12/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	9.5	µg/L	Primary Result	JB	U	V	B	26013A
HAR-19	7/12/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	25950C
HAR-20	7/27/2011	Field Duplicate	8260B	Acetone	10	µg/L	Primary Result	J	U	IV	T, F	26097A
HAR-20	7/27/2011	Field Duplicate	8260B	Acetonitrile	9.6	µg/L	Primary Result	U	UJ	IV	R	26097A
HAR-20	7/27/2011	Field Duplicate	8260B	Dichlorodifluoromethane	0.31	µg/L	Primary Result	U	UJ	IV	C	26097A
HAR-20	7/27/2011	Field Duplicate	8260B	Isobutanol	37	µg/L	Primary Result	U	UJ	IV	R	26097A
HAR-20	7/27/2011	Field Duplicate	8260B	Methyl methacrylate	1.1	µg/L	Primary Result	U	UJ	IV	R	26097A
HAR-20	7/27/2011	Field Duplicate	8260B	Trichlorofluoromethane	0.29	µg/L	Primary Result	U	UJ	IV	C	26097A
HAR-20	7/27/2011	Primary Sample	300.0	Fluoride	0.29	mg/L	Primary Result	J	J	V	TR	26097A
HAR-20	7/27/2011	Field Duplicate	8260B	Vinyl chloride	0.68	µg/L	Primary Result	J	J	IV	TR	26097A
HAR-20	7/27/2011	Primary Sample	350.1	Ammonia-N	0.096	mg/L	Primary Result	JB	U	V	B	26097A
HAR-20	7/27/2011	Primary Sample	8015B	Diesel Range Organics (C8-C30)	0.15	mg/L	Primary Result	J	J	V	TR	26097A
HAR-20	7/27/2011	Primary Sample	8260B	Acetonitrile	9.6	µg/L	Primary Result	U	UJ	IV	R	26097A
HAR-20	7/27/2011	Primary Sample	8015B	Kerosene Range (C15-C20)	0.075	mg/L	Primary Result	J	J	V	TR	26097A
HAR-20	7/27/2011	Primary Sample	8015B	Diesel Range Organics (C21-C30)	0.061	mg/L	Primary Result	J	J	V	TR	26097A
HAR-20	7/27/2011	Primary Sample	8260B	Acetone	10	µg/L	Primary Result	J	U	IV	T, F	26097A
HAR-20	7/27/2011	Primary Sample	8260B	Isobutanol	37	µg/L	Primary Result	U	UJ	IV	R	26097A
HAR-20	7/27/2011	Primary Sample	8260B	Dichlorodifluoromethane	0.31	µg/L	Primary Result	U	UJ	IV	C	26097A
HAR-20	7/27/2011	Primary Sample	8260B	Trichlorofluoromethane	0.29	µg/L	Primary Result	U	UJ	IV	C	26097A
HAR-20	7/27/2011	Primary Sample	8260B	Methyl methacrylate	1.1	µg/L	Primary Result	U	UJ	IV	R	26097A
HAR-20	7/27/2011	Primary Sample	8260B	Vinyl chloride	0.54	µg/L	Primary Result	J	J	IV	TR	26097A
HAR-20	7/27/2011	Split Sample	8260B	1,1,1,2-Tetrachloroethane	0.27	µg/L	Primary Result	U,L	UJ	IV	C, S	26047D
HAR-20	7/27/2011	Split Sample	8260B	1,1,1-Trichloroethane	0.3	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	1,1-Dichloroethene	0.42	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	1,2-Dichlorobenzene	0.32	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	1,2-Dichloroethane	0.28	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	2-Hexanone	2.6	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	Methyl isobutyl ketone (MIBK)	3.5	µg/L	Primary Result	U	UJ	IV	C, S	26047D
HAR-20	7/27/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26041D

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
HAR-20	7/27/2011	Split Sample	8260B	1,1,2,2-Tetrachloroethane	0.3	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	1,1,2-Trichloroethane	0.3	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	1,1-Dichloroethane	0.4	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	1,2-Dichloropropane	0.35	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	1,3-Dichlorobenzene	0.35	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	1,4-Dichlorobenzene	0.37	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	Acetone	4.5	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	Acetonitrile	9	µg/L	Primary Result	U	UJ	IV	C, R, S	26047D
HAR-20	7/27/2011	Split Sample	8260B	Allyl chloride	0.7	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	Bromomethane	0.42	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	Carbon Disulfide	0.48	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	Carbon Tetrachloride	0.28	µg/L	Primary Result	U,C,L,M7	UJ	IV	C, S	26047D
HAR-20	7/27/2011	Split Sample	8260B	Chloromethane	0.4	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	Chloroprene	0.6	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	cis-1,2-Dichloroethene	20	µg/L	Primary Result		J	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	Dibromomethane	0.36	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	Dichlorodifluoromethane	0.26	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	Ethyl cyanide	7	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	Isobutanol	7	µg/L	Primary Result	U	UJ	IV	R, S	26047D
HAR-20	7/27/2011	Split Sample	8260B	m-Xylene & p-Xylene	0.6	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	Methacrylonitrile	0.9	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	Benzene	0.28	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	Bromodichloromethane	0.3	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	Bromoform	0.4	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	Chlorobenzene	0.36	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	Chloroethane	0.4	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	Chloroform	0.33	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	cis-1,3-Dichloropropene	0.22	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	Dibromochloromethane	0.4	µg/L	Primary Result	U	UJ	IV	C, S	26047D
HAR-20	7/27/2011	Split Sample	8260B	Ethyl methacrylate	0.9	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	Ethylbenzene	0.25	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	Iodomethane	1	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	Methyl ethyl ketone	4.7	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	Methyl methacrylate	0.9	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	Methylene chloride	0.95	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	Toluene	0.36	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	trans-1,2-Dichloroethene	1.7	µg/L	Primary Result		J	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	Trichlorofluoromethane	0.34	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	Vinyl acetate	1	µg/L	Primary Result	U	UJ	IV	C, S	26047D
HAR-20	7/27/2011	Split Sample	8260B	Vinyl chloride	0.54	µg/L	Primary Result	J	J	IV	S, TR	26047D
HAR-20	7/27/2011	Split Sample	8260B	o-Xylene	0.3	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	Styrene	0.2	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	Tetrachloroethene	0.32	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	trans-1,3-Dichloropropene	0.32	µg/L	Primary Result	U,L	UJ	IV	S	26047D

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
HAR-20	7/27/2011	Split Sample	8260B	trans-1,4-Dichloro-2-butene	2.5	µg/L	Primary Result	U	UJ	IV	S	26047D
HAR-20	7/27/2011	Split Sample	8260B	Trichloroethene	19	µg/L	Primary Result		J	IV	S	26047D
HAR-21	7/29/2011	Primary Sample	300.0	Fluoride	0.36	mg/L	Primary Result	J	J	V	TR	26090H
HAR-21	7/29/2011	Primary Sample	8260B	1,1-Dichloroethene	0.26	µg/L	Primary Result	J	J	V	S, TR	26090H
HAR-21	7/29/2011	Primary Sample	1625M	n-Nitrosodimethylamine	0.04	µg/L	Lab Repeat Analysis	HTV	J	V	H	26090H
HAR-21	7/29/2011	Primary Sample	350.1	Ammonia-N	0.11	mg/L	Primary Result	JB	U	V	B	26090H
HAR-21	7/29/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	220	µg/L	Primary Result		J	V	S	26090H
HAR-21	7/29/2011	Primary Sample	8260B	Acetone	10	µg/L	Primary Result		UJ	V	L, S, T	26090H
HAR-21	7/29/2011	Primary Sample	8260B	Trichloroethene	1.1	µg/L	Primary Result		J	V	S	26090H
HAR-21	7/29/2011	Primary Sample	8260B	Vinyl chloride	100	µg/L	Primary Result		J	V	S	26090H
HAR-21	7/29/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26041F
HAR-21	7/29/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	17	µg/L	Primary Result		J	V	S	26090H
HAR-21	7/29/2011	Primary Sample	8260B SIM	1,4-Dioxane	1.4	µg/L	Primary Result	J	J	V	TR	26090H
HAR-21	7/29/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	10	µg/L	Primary Result	JB	U	V	B	26090H
HAR-23	7/25/2011	Primary Sample	1625M	n-Nitrosodimethylamine	0.015	µg/L	Primary Result		U	V	F	26050E
HAR-23	7/25/2011	Primary Sample	350.1	Ammonia-N	0.089	mg/L	Primary Result	JB	U	V	B	26050E
HAR-23	7/25/2011	Primary Sample	300.0	Fluoride	0.26	mg/L	Primary Result	J	J	V	TR	26050E
HAR-23	7/25/2011	Primary Sample	8015B	Diesel Range Organics (C21-C30)	0.053	mg/L	Primary Result	J	J	V	TR	26050E
HAR-23	7/25/2011	Primary Sample	8260B	Acetone	10	µg/L	Primary Result	J	U	V	T	26050E
HAR-23	7/25/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	3	µg/L	Primary Result	J	J	V	TR	26050E
HAR-23	7/25/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26034D
HAR-23	7/25/2011	Primary Sample	9040B	pH	7.39	pH Units	Primary Result	HTV	J	V	H	26050E
HAR-25	8/10/2011	Field Duplicate	8151A	Dinoseb	0.17	µg/L	Primary Result	U	UJ	IV	C	26171J
HAR-25	8/10/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	0.56	µg/L	Primary Result	J	J	V	TR	26171J
HAR-25	8/10/2011	Primary Sample	8151A	Dinoseb	0.18	µg/L	Primary Result	U	UJ	IV	C	26171J
HAR-25	8/10/2011	Primary Sample	8260B	Trichloroethene	13	µg/L	Primary Result		J	V	Q	26171J
HAR-25	8/10/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26090M
HAR-25	8/10/2011	Primary Sample	9040B	pH	7.22	pH Units	Primary Result	HTV	J	V	H	26171J
HAR-25	8/10/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	9.7	µg/L	Primary Result	JB	U	V	B	26171J
HAR-26	7/20/2011	Primary Sample	350.1	Ammonia-N	0.069	mg/L	Primary Result	JB	U	IV	B	26041A
HAR-26	7/20/2011	Field Duplicate	9012	Cyanides	0.0026	mg/L	Primary Result	J	J	IV	TR	26041A
HAR-26	7/20/2011	Primary Sample	8270C	Diethyl phthalate	0.41	µg/L	Primary Result	J	J	IV	TR	26041A
HAR-26	7/20/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26034A
HAR-26	7/20/2011	Primary Sample	9040B	pH	8.34	pH Units	Primary Result	HTV	J	IV	H	26041A
HAR-27	8/2/2011	Field Duplicate	8151A	Dinoseb	0.17	µg/L	Primary Result	U	UJ	IV	C	26050F
HAR-27	8/2/2011	Field Duplicate	9012	Cyanides	0.0051	mg/L	Primary Result	J	U	IV	F	26050F
HAR-27	8/2/2011	Primary Sample	8151A	Dinoseb	0.17	µg/L	Primary Result	J	J	IV	C, TR, *IX	26050F
HAR-27	8/2/2011	Primary Sample	8260B	Acetone	13	µg/L	Primary Result		U	V	T	26050F
HAR-27	8/2/2011	Primary Sample	8260B	Vinyl chloride	0.76	µg/L	Primary Result	J	J	V	TR	26050F
HAR-27	8/2/2011	Primary Sample	8260B	Methylene chloride	5	µg/L	Primary Result	JB	U	V	B, T	26050F
HAR-27	8/2/2011	Primary Sample	8260B	Trichloroethene	0.18	µg/L	Primary Result	J	J	V	TR	26050F
HAR-27	8/2/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26090J
HAR-27	8/2/2011	Primary Sample	9012	Cyanides	0.0023	mg/L	Primary Result	J	U	IV	F	26050F
HAR-27	8/2/2011	Split Sample	9014	Cyanides	0.003	mg/L	Primary Result	B,J	U	IV	B, F	26136J

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
HAR-28	8/2/2011	Primary Sample	300.0	Fluoride	0.23	mg/L	Primary Result	J	J	V	TR	26050F
HAR-28	8/2/2011	Primary Sample	300.0	Nitrate-NO3	0.52	mg/L	Primary Result	J	J	V	TR	26050F
HAR-28	8/2/2011	Primary Sample	350.1	Ammonia-N	0.089	mg/L	Primary Result	JB	U	V	B	26050F
HAR-28	8/2/2011	Primary Sample	8260B	Methylene chloride	5	µg/L	Primary Result	JB	U	V	B, T	26050F
HAR-28	8/2/2011	Primary Sample	8260B	Acetone	10	µg/L	Primary Result	J	U	V	T	26050F
HAR-28	8/2/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	0.2	µg/L	Primary Result	J	J	V	TR	26050F
HAR-28	8/2/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26090J
HAR-29	8/2/2011	Primary Sample	314.0	Perchlorate	1.1	µg/L	Primary Result	J	J	V	TR	26050F
HAR-29	8/2/2011	Primary Sample	350.1	Ammonia-N	0.083	mg/L	Primary Result	JB	U	V	B	26050F
HAR-29	8/2/2011	Primary Sample	300.0	Fluoride	0.3	mg/L	Primary Result	J	J	V	TR	26050F
HAR-29	8/2/2011	Primary Sample	8260B	Acetone	43	µg/L	Primary Result		U	V	T	26050F
HAR-29	8/2/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	0.18	µg/L	Primary Result	J	J	V	TR	26050F
HAR-29	8/2/2011	Primary Sample	8260B	Methylene chloride	5	µg/L	Primary Result	JB	U	V	B, T	26050F
HAR-29	8/2/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26090J
HAR-30	7/21/2011	Primary Sample	300.0	Fluoride	0.37	mg/L	Primary Result	J	J	V	TR	26041B
HAR-30	7/21/2011	Primary Sample	300.0	Nitrate-NO3	0.76	mg/L	Primary Result	J	J	V	TR	26041B
HAR-30	7/21/2011	Primary Sample	350.1	Ammonia-N	0.055	mg/L	Primary Result	JB	U	V	B	26041B
HAR-30	7/21/2011	Primary Sample	8260B	Trichloroethene	0.55	µg/L	Primary Result	J	J	V	S, TR	26041B
HAR-30	7/21/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26034B
HAR-32	7/21/2011	Primary Sample	350.1	Ammonia-N	0.067	mg/L	Primary Result	JB	U	V	B	26041B
HAR-32	7/21/2011	Primary Sample	8260B	1,1,1-Trichloroethane	0.16	µg/L	Primary Result	U	UJ	V	S	26041B
HAR-32	7/21/2011	Primary Sample	8260B	1,2-Dichloroethane	0.13	µg/L	Primary Result	U	UJ	V	S	26041B
HAR-32	7/21/2011	Primary Sample	8260B	Acetone	1.9	µg/L	Primary Result	U	UJ	V	S	26041B
HAR-32	7/21/2011	Primary Sample	8260B	Benzene	0.16	µg/L	Primary Result	U	UJ	V	S	26041B
HAR-32	7/21/2011	Primary Sample	8260B	Carbon Tetrachloride	0.19	µg/L	Primary Result	U	UJ	V	S	26041B
HAR-32	7/21/2011	Primary Sample	8260B	Ethylbenzene	0.16	µg/L	Primary Result	U	UJ	V	S	26041B
HAR-32	7/21/2011	Primary Sample	8260B	1,1,2-Trichloroethane	0.27	µg/L	Primary Result	U	UJ	V	S	26041B
HAR-32	7/21/2011	Primary Sample	8260B	1,1-Dichloroethane	0.22	µg/L	Primary Result	U	UJ	V	S	26041B
HAR-32	7/21/2011	Primary Sample	8260B	1,1-Dichloroethene	0.23	µg/L	Primary Result	U	UJ	V	S	26041B
HAR-32	7/21/2011	Primary Sample	8260B	Chloroform	0.16	µg/L	Primary Result	U	UJ	V	S	26041B
HAR-32	7/21/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	5.3	µg/L	Primary Result		J	V	S	26041B
HAR-32	7/21/2011	Primary Sample	8260B	Isopropanol	13	µg/L	Primary Result	U	UJ	V	S	26041B
HAR-32	7/21/2011	Primary Sample	8260B	m-Xylene & p-Xylene	0.34	µg/L	Primary Result	U	UJ	V	S	26041B
HAR-32	7/21/2011	Primary Sample	8260B	Methyl ethyl ketone	2	µg/L	Primary Result	U	UJ	V	S	26041B
HAR-32	7/21/2011	Primary Sample	8260B	Toluene	0.17	µg/L	Primary Result	U	UJ	V	S	26041B
HAR-32	7/21/2011	Primary Sample	8260B	Vinyl chloride	0.1	µg/L	Primary Result	U	UJ	V	S	26041B
HAR-32	7/21/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	9.8	µg/L	Primary Result	JB	U	V	B	26041B
HAR-32	7/21/2011	Primary Sample	8260B	Methylene chloride	0.32	µg/L	Primary Result	U	UJ	V	S	26041B
HAR-32	7/21/2011	Primary Sample	8260B	o-Xylene	0.19	µg/L	Primary Result	U	UJ	V	S	26041B
HAR-32	7/21/2011	Primary Sample	8260B	Tetrachloroethene	0.2	µg/L	Primary Result	U	UJ	V	S	26041B
HAR-32	7/21/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	0.15	µg/L	Primary Result	U	UJ	V	S	26041B
HAR-32	7/21/2011	Primary Sample	8260B	Trichlorofluoromethane	0.29	µg/L	Primary Result	U	UJ	V	S	26041B
HAR-32	7/21/2011	Primary Sample	8270C	Di-n-octyl phthalate	4.7	µg/L	Primary Result	J	J	V	TR	26041B
HAR-32	7/21/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26034B

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
HAR-32	8/8/2011	Primary Sample	1625M	n-Nitrosodimethylamine	0.024	µg/L	Primary Result	HTV	J	V	H	26136E
HAR-32	8/8/2011	Field Duplicate	1625M	n-Nitrosodimethylamine	0.023	µg/L	Primary Result	HTV	J	V	H	26171G
HAR-33	7/25/2011	Field Duplicate	8290	Octachlorodibenzo-p-dioxin	1.5	pg/L	Primary Result	JBQC	U	IV	B	26062C
HAR-33	7/25/2011	Primary Sample	8260B	Acetone	18	µg/L	Primary Result	B	UJ	V	B, T	26050E
HAR-33	7/25/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	46	µg/L	Primary Result	HTV	J	V	H, S	26050E
HAR-33	7/25/2011	Primary Sample	8260B	Trichloroethene	0.58	µg/L	Primary Result	J	J	V	TR	26050E
HAR-33	7/25/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	8.9	µg/L	Primary Result	J	J	V	TR	26050E
HAR-33	7/25/2011	Split Sample	8290	2,3,4,6,7,8-Hexachlorodibenzofuran	0.73	pg/L	Primary Result	J	J	IV	TR	26062A
HAR-33	7/25/2011	Split Sample	8290	Hexachlorodibenzofurans	0.73	pg/L	Primary Result	J	J	IV	TR	26062A
HAR-33	7/25/2011	Split Sample	8290	Octachlorodibenzo-p-dioxin	7.7	pg/L	Primary Result	J,B	U	IV	B	26062A
HAR-33	7/25/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26034D
HAR-33	7/25/2011	Primary Sample	9040B	pH	7.36	pH Units	Primary Result	HTV	J	V	H	26050E
HAR-33	7/25/2011	Split Sample	8290	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	0.88	pg/L	Primary Result	J,Q,B	U	IV	B	26062A
HAR-33	7/25/2011	Primary Sample	8290	Octachlorodibenzo-p-dioxin	2.4	pg/L	Primary Result	JBQC	U	IV	B	26062C
HAR-33	7/25/2011	Primary Sample	DV-WC-0077	Monomethylhydrazine	0.5	µg/L	Primary Result	J	J	V	TR	26050E
HAR-33	7/25/2011	Split Sample	8290	Heptachlorodibenzo-p-dioxins	1.8	pg/L	Primary Result	J,Q,B	U	IV	B	26062A
HAR-33	7/25/2011	Split Sample	8290	Octachlorodibenzofuran	0.99	pg/L	Primary Result	J	J	IV	TR	26062A
PZ-035	7/21/2011	Primary Sample	350.1	Ammonia-N	0.068	mg/L	Primary Result	JB	U	V	B	26041B
PZ-035	7/21/2011	Primary Sample	300.0	Fluoride	0.3	mg/L	Primary Result	J	J	V	TR	26041B
PZ-035	7/21/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	5.4	µg/L	Primary Result	J	J	V	S	26041B
PZ-035	7/21/2011	Primary Sample	8260B	1,1-Dichloroethane	0.41	µg/L	Primary Result	J	J	V	S, TR	26041B
PZ-035	7/21/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	19	µg/L	Primary Result	J	J	V	S	26041B
PZ-035	7/21/2011	Primary Sample	8260B	Trichloroethene	27	µg/L	Primary Result	J	J	V	S	26041B
PZ-035	7/21/2011	Primary Sample	8270C	Diethyl phthalate	1.5	µg/L	Primary Result	J	J	V	TR	26041B
PZ-035	7/21/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B, F	26034B
PZ-035	7/21/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	9.5	µg/L	Primary Result	JB	U	V	B, F	26041B
PZ-060	7/21/2011	Field Duplicate	8270C	1,4-Naphthoquinone	15	µg/L	Primary Result	U	UJ	IV	C	26041B
PZ-060	7/21/2011	Field Duplicate	8270C	bis(2-Ethylhexyl) phthalate	11	µg/L	Primary Result	JB	U	IV	B, F	26041B
PZ-060	7/21/2011	Field Duplicate	8270C	Methapyrilene	21	µg/L	Primary Result	U	UJ	IV	C	26041B
PZ-060	7/21/2011	Field Duplicate	8270C	Methyl methanesulfonate	1.1	µg/L	Primary Result	U	UJ	IV	C	26041B
PZ-060	7/21/2011	Primary Sample	1625M	n-Nitrosodimethylamine	0.0016	µg/L	Primary Result	J	J	V	TR	26041B
PZ-060	7/21/2011	Primary Sample	300.0	Fluoride	0.48	mg/L	Primary Result	J	J	IV	TR	26041B
PZ-060	7/21/2011	Primary Sample	350.1	Ammonia-N	0.28	mg/L	Primary Result	JB	U	IV	B	26041B
PZ-060	7/21/2011	Primary Sample	8015B	Diesel Range Organics (C21-C30)	0.036	mg/L	Primary Result	J	J	V	TR	26041B
PZ-060	7/21/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	0.85	µg/L	Primary Result	J	J	V	TR	26041B
PZ-060	7/21/2011	Primary Sample	8260B SIM	1,4-Dioxane	1.6	µg/L	Primary Result	J	J	V	TR	26041B
PZ-060	7/21/2011	Primary Sample	8270C	1,4-Naphthoquinone	14	µg/L	Primary Result	U	UJ	IV	C	26041B
PZ-060	7/21/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	10	µg/L	Primary Result	JB	U	IV	B, F	26041B
PZ-060	7/21/2011	Primary Sample	8270C	Methapyrilene	21	µg/L	Primary Result	U	UJ	IV	C	26041B
PZ-060	7/21/2011	Primary Sample	8270C	Methyl methanesulfonate	1	µg/L	Primary Result	U	UJ	IV	C	26041B
PZ-060	7/21/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B, F	26034B
PZ-060	7/21/2011	Split Sample	4500	Sulfide	0.027	mg/L	Primary Result	J	J	IV	TR	26090O
PZ-060	7/21/2011	Split Sample	8270C	1,2,4,5-Tetrachlorobenzene	2.5	µg/L	Primary Result	U,C	U	IV	C	26090O
PZ-060	7/21/2011	Split Sample	8270C	4-Nitroquinoline-1-oxide	2.9	µg/L	Primary Result	U,C-2	U	IV	C	26090O

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
PZ-060	7/21/2011	Split Sample	8270C	alpha-Naphthylamine	5.4	µg/L	Primary Result	U	UJ	IV	C	260900
PZ-060	7/21/2011	Split Sample	8270C	alpha-Picoline	2.5	µg/L	Primary Result	U,C-2	U	IV	C	260900
PZ-060	7/21/2011	Split Sample	8270C	Hexachloropropene	9.8	µg/L	Primary Result	U,C	U	IV	C	260900
PZ-060	7/21/2011	Split Sample	8270C	Isosafrole	5.9	µg/L	Primary Result	U,C	U	IV	C	260900
PZ-060	7/21/2011	Split Sample	8270C	Methapyrilene	3.9	µg/L	Primary Result	U	U	IV	C	260900
PZ-060	7/21/2011	Split Sample	8270C	n-Nitrosodiethylamine	2.9	µg/L	Primary Result	UC-2	U	IV	C	260900
PZ-060	7/21/2011	Split Sample	8270C	n-Nitrosomethylethylamine	2.5	µg/L	Primary Result	U,C-2	U	IV	C	260900
PZ-060	7/21/2011	Split Sample	8270C	o,o,o-Triethylphosphorothioate	4.4	µg/L	Primary Result	U,C	U	IV	C	260900
PZ-060	7/21/2011	Split Sample	8270C	Pentachloronitrobenzene	2.5	µg/L	Primary Result	U,C	U	IV	C	260900
PZ-060	7/21/2011	Split Sample	8270C	o-Toluidine	2.5	µg/L	Primary Result	U	UJ	IV	C	260900
PZ-060	7/21/2011	Split Sample	8270C	p-Phenylenediamine	25	µg/L	Primary Result	U,C-2	UJ	IV	C	260900
PZ-060	7/21/2011	Split Sample	8270C	alpha, alpha-Dimethylphenethylamine	39	µg/L	Primary Result	UC-2	UJ	IV	C	260900
PZ-076	8/8/2011	Primary Sample	300.0	Nitrate-NO3	1.4	mg/L	Primary Result	J	J	V	TR	26136E
PZ-077	8/8/2011	Primary Sample	8260B	Acetone	10	µg/L	Primary Result	J	U	V	F, L	26136E
PZ-108	7/18/2011	Primary Sample	6020	Antimony	0.00022	mg/L	Primary Result	J	J	V	TR	26013C
PZ-108	7/18/2011	Primary Sample	6020	Antimony, Dissolved	0.00021	mg/L	Primary Result	J	J	V	TR	26013C
PZ-108	7/18/2011	Primary Sample	6020	Arsenic	0.0015	mg/L	Primary Result	J	J	V	TR	26013C
PZ-108	7/18/2011	Primary Sample	6020	Arsenic, Dissolved	0.0016	mg/L	Primary Result	J	J	V	TR	26013C
PZ-108	7/18/2011	Primary Sample	6020	Cadmium	0.00056	mg/L	Primary Result	J	J	V	TR	26013C
PZ-108	7/18/2011	Primary Sample	6020	Cadmium, Dissolved	0.00045	mg/L	Primary Result	J	J	V	TR	26013C
PZ-108	7/18/2011	Primary Sample	6020	Cobalt, Dissolved	0.000086	mg/L	Primary Result	J	J	V	TR	26013C
PZ-108	7/18/2011	Primary Sample	6020	Copper	0.00077	mg/L	Primary Result	J	J	V	TR	26013C
PZ-108	7/18/2011	Primary Sample	6020	Nickel, Dissolved	0.0015	mg/L	Primary Result	J	J	V	TR	26013C
PZ-108	7/18/2011	Primary Sample	6020	Silver, Dissolved	0.000017	mg/L	Primary Result	J	U	V	B	26013C
PZ-108	7/18/2011	Primary Sample	6020	Thallium	0.000024	mg/L	Primary Result	JB	U	V	B	26013C
PZ-108	7/18/2011	Primary Sample	6020	Vanadium	0.0026	mg/L	Primary Result	J	J	V	TR	26013C
PZ-108	7/18/2011	Primary Sample	6020	Vanadium, Dissolved	0.0022	mg/L	Primary Result	J	J	V	TR	26013C
PZ-108	7/18/2011	Primary Sample	6020	Zinc	0.0057	mg/L	Primary Result	J	J	V	TR	26013C
PZ-108	7/18/2011	Primary Sample	6020	Chromium	0.00063	mg/L	Primary Result	J	J	V	TR	26013C
PZ-108	7/18/2011	Primary Sample	6020	Cobalt	0.00017	mg/L	Primary Result	J	J	V	TR	26013C
PZ-108	7/18/2011	Primary Sample	6020	Nickel	0.0019	mg/L	Primary Result	J	J	V	TR	26013C
PZ-108	7/18/2011	Primary Sample	6020	Thallium, Dissolved	0.000034	mg/L	Primary Result	J	U	V	B	26013C
PZ-108	7/18/2011	Primary Sample	6020	Zinc, Dissolved	0.004	mg/L	Primary Result	J	J	V	TR	26013C
PZ-108	7/18/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	5.2	µg/L	Primary Result		J	V	S	26013C
PZ-124	7/14/2011	Primary Sample	900.0	Gross Alpha, Dissolved	37.035	pCi/L	Primary Result		J	V	L	26090D
PZ-124	7/14/2011	Primary Sample	900.0	Gross alpha, Particulate	0.13	pCi/L	Primary Result	U	UJ	V	L	26090D
PZ-124	7/14/2011	Primary Sample	908.0	Uranium-233/234, Particulate	0.188	pCi/L	Primary Result	J	J	V	*VIII	26090D
PZ-124	7/14/2011	Primary Sample	908.0	Uranium, Particulate	0.023	pCi/L	Primary Result	U	UJ	V	*VIII	26090D
PZ-124	7/14/2011	Primary Sample	908.0	Uranium-235, Particulate	0.03	pCi/L	Primary Result	U	UJ	V	*VIII	26090D
PZ-139	7/11/2011	Primary Sample	300.0	Bromide	0.31	mg/L	Primary Result	J	J	V	TR	26013E
PZ-139	7/11/2011	Primary Sample	6020	Cadmium, Dissolved	0.00008	mg/L	Primary Result	J	J	V	TR	26013E
PZ-139	7/11/2011	Primary Sample	6020	Vanadium, Dissolved	0.0013	mg/L	Primary Result	J	J	V	TR	26013E
PZ-139	7/11/2011	Primary Sample	6020	Zinc, Dissolved	0.0042	mg/L	Primary Result	J	J	V	TR	26013E
PZ-139	7/11/2011	Primary Sample	7196A	Hexavalent Chromium	0.004	mg/L	Primary Result	U	UJ	V	H	26013E

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
PZ-139	7/11/2011	Primary Sample	6010B	Boron, Dissolved	0.049	mg/L	Primary Result	J	J	V	TR	26013E
PZ-139	7/11/2011	Primary Sample	6020	Arsenic, Dissolved	0.0011	mg/L	Primary Result	J	J	V	TR	26013E
PZ-139	7/11/2011	Primary Sample	6020	Cobalt, Dissolved	0.00058	mg/L	Primary Result	J	J	V	TR	26013E
PZ-139	7/11/2011	Primary Sample	6020	Silver, Dissolved	0.000021	mg/L	Primary Result	JB	U	V	B, F	26013E
PZ-139	7/11/2011	Primary Sample	6020	Thallium, Dissolved	0.000058	mg/L	Primary Result	JB	U	V	B, F	26013E
PZ-139	7/11/2011	Primary Sample	7196A	Hexavalent Chromium, Dissolved	0.004	mg/L	Primary Result	U	UJ	V	H	26013E
PZ-139	7/11/2011	Primary Sample	8260B	1,1-Dichloroethene	0.57	µg/L	Primary Result	J	J	V	TR	26013E
PZ-139	7/11/2011	Primary Sample	8260B	Acetone	10	µg/L	Primary Result	J	U	V	T, F	26013E
PZ-139	7/11/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	0.53	µg/L	Primary Result	J	J	V	TR	26013E
PZ-139	7/11/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	52	µg/L	Primary Result	JB	U	V	B, F	26013E
PZ-139	7/11/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B, F	25950B
PZ-139	7/11/2011	Split Sample	1625M	n-Nitrosodimethylamine	< 0.005	µg/L	Lab Repeat Analysis	H,U	R	V	D	26047A
PZ-139	7/11/2011	Primary Sample	8290	Octachlorodibenzo-p-dioxin	5.3	pg/L	Primary Result	JB	U	V	B, F	25950A
PZ-139	7/11/2011	Split Sample	6020	Cobalt, Dissolved	0.00068	mg/L	Primary Result	J	J	V	TR	26047A
PZ-139	7/11/2011	Split Sample	6020	Selenium, Dissolved	0.00095	mg/L	Primary Result	J	J	V	TR	26047A
PZ-139	7/11/2011	Split Sample	6020	Vanadium, Dissolved	0.001	mg/L	Primary Result	J	J	V	TR	26047A
PZ-139	7/11/2011	Split Sample	8260B	1,1-Dichloroethene	0.52	µg/L	Primary Result	J	J	V	TR	26047A
PZ-139	7/11/2011	Split Sample	8260B	trans-1,2-Dichloroethene	0.51	µg/L	Primary Result	J	J	V	TR	26047A
PZ-139	7/11/2011	Split Sample	8290	1,2,3,4,6,7,8-Heptachlorodibenzofuran	2.8	pg/L	Primary Result	J,Q,B	U	V	B	26047A
PZ-139	7/11/2011	Split Sample	8290	1,2,3,7,8,9-Hexachlorodibenzofuran	2.5	pg/L	Primary Result	J,Q	J	V	TR	26047A
PZ-139	7/11/2011	Split Sample	8290	Hexachlorodibenzofurans	2.5	pg/L	Primary Result	J,Q,B	U	V	B	26047A
PZ-139	7/11/2011	Split Sample	8290	Octachlorodibenzo-p-dioxin	24	pg/L	Primary Result	J,B	U	V	B, F	26047A
PZ-139	7/11/2011	Split Sample	8290	Heptachlorodibenzofurans	2.8	pg/L	Primary Result	J,Q,B	U	V	B	26047A
PZ-139	7/11/2011	Split Sample	8290	Octachlorodibenzofuran	7.9	pg/L	Primary Result	J,B	U	V	B	26047A
PZ-139	7/11/2011	Split Sample	8315A	Hydrazine	0.1	µg/L	Primary Result	U	UJ	V	H	26047A
PZ-139	7/11/2011	Split Sample	8315A	1,1-Dimethylhydrazine	0.5	µg/L	Primary Result	U	UJ	V	H	26047A
PZ-139	7/11/2011	Split Sample	8315A	Monomethylhydrazine	0.5	µg/L	Primary Result	U	UJ	V	H	26047A
PZ-139	7/11/2011	Split Sample	300.0	Bromide	0.47	mg/L	Primary Result	J	J	V	TR	26047A
PZ-139	7/11/2011	Split Sample	300.0	Total Phosphorus	0.14	mg/L	Primary Result	J	J	V	TR	26047A
PZ-139	7/12/2011	Primary Sample	8015B	Diesel Range Organics (C21-C30)	0.046	mg/L	Primary Result	J	J	V	TR	26013A
PZ-139	7/12/2011	Primary Sample	8270C SIM	Di-n-butyl phthalate	10	µg/L	Primary Result	JB	U	V	B, F	26013A
PZ-139	7/12/2011	Primary Sample	8270C SIM	Di-n-octyl phthalate	10	µg/L	Primary Result	JB	U	V	B, F	26013A
PZ-139	7/12/2011	Primary Sample	8270C SIM	Diethyl phthalate	10	µg/L	Primary Result	JB	U	V	B, F	26013A
PZ-140	8/9/2011	Field Duplicate	300.0	Fluoride	0.43	mg/L	Primary Result	J	J	V	TR	26171H
PZ-140	8/9/2011	Field Duplicate	6020	Cadmium, Dissolved	0.000044	mg/L	Primary Result	J	J	V	TR	26171H
PZ-140	8/9/2011	Field Duplicate	6020	Molybdenum, Dissolved	0.0021	mg/L	Primary Result		U	V	F	26171H
PZ-140	8/9/2011	Field Duplicate	6020	Nickel, Dissolved	0.0025	mg/L	Primary Result		U	V	F	26171H
PZ-140	8/9/2011	Field Duplicate	6010B	Boron, Dissolved	0.045	mg/L	Primary Result	J	J	V	TR	26171H
PZ-140	8/9/2011	Field Duplicate	6020	Arsenic, Dissolved	0.0006	mg/L	Primary Result	J	J	V	TR	26171H
PZ-140	8/9/2011	Field Duplicate	6020	Thallium, Dissolved	0.000029	mg/L	Primary Result	JB	U	V	B, F	26171H
PZ-140	8/9/2011	Field Duplicate	6020	Vanadium, Dissolved	0.00098	mg/L	Primary Result	J	J	V	TR	26171H
PZ-140	8/9/2011	Field Duplicate	8015B	Diesel Range Organics (C12-C14)	0.069	mg/L	Primary Result	J	J	V	TR	26171H
PZ-140	8/9/2011	Field Duplicate	7196A	Hexavalent Chromium	0.004	mg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-140	8/9/2011	Field Duplicate	7196A	Hexavalent Chromium, Dissolved	0.004	mg/L	Primary Result	UHTV	UJ	V	H	26171H

TABLE B-3
SUMMARY OF THIRD QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab	Validator	Validation Level	Reason Code	Validation Report
								Qualifier Code	Qualifier Code			
PZ-140	8/9/2011	Field Duplicate	8260B	1,1,1,2-Tetrachloroethane	0.21	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	1,1,1-Trichloroethane	0.16	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	1,1,2,2-Tetrachloroethane	0.21	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	1,1-Dichloropropene	0.19	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	1,2,3-Trichlorobenzene	0.21	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	1,2,3-Trichloropropane	0.33	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	1,2-Dibromoethane	0.18	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	1,2-Dichlorobenzene	0.15	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	1,2-Dichloroethane	0.13	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	1,3,5-Trimethylbenzene	0.16	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	1,3-Dichlorobenzene	0.13	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	1,4-Dichlorobenzene	0.16	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	Methyl isobutyl ketone (MIBK)	0.98	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	1,1,2-Trichloroethane	0.27	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	1,1-Dichloroethane	0.22	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	1,1-Dichloroethene	0.23	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	1,2,4-Trichlorobenzene	0.21	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	1,2,4-Trimethylbenzene	0.15	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	1,2-Dibromo-3-chloropropane	0.47	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	1,2-Dichloropropane	0.18	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	2-Hexanone	1.7	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	Acetone	1.9	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	Bromodichloromethane	0.17	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	Bromoform	0.19	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	Bromomethane	0.21	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	Benzene	0.16	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	Bromobenzene	0.17	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	Bromochloromethane	0.1	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	Carbon Disulfide	0.45	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	Carbon Tetrachloride	0.19	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	Chlorobenzene	0.17	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	cis-1,2-Dichloroethene	7.3	µg/L	Primary Result		J	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	cis-1,3-Dichloropropene	0.16	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	Cumene	0.19	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	Dichlorodifluoromethane	0.31	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	Diisopropyl ether	0.74	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	Ethylbenzene	0.16	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	Methyl ethyl ketone	2	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	Methyl tert-butyl ether	0.25	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	Methylene chloride	0.32	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	o-Xylene	0.19	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	p-Chlorotoluene	0.21	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	p-Cymene	0.2	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	tert-Amyl methyl ether	1.4	µg/L	Primary Result	U	UJ	V	S	26171H

TABLE B-3
SUMMARY OF THIRD QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
PZ-140	8/9/2011	Field Duplicate	8260B	tert-Butyl alcohol	3.8	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	tert-Butyl ethyl ether	1.2	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	Toluene	0.17	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	Chloroethane	0.41	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	Chloroform	0.16	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	Chloromethane	0.3	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	Dibromochloromethane	0.17	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	Hexachlorobutadiene	0.12	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	Iodomethane	0.23	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	m-Xylene & p-Xylene	0.34	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	n-Butylbenzene	0.14	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	n-Propylbenzene	0.16	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	o-Chlorotoluene	0.17	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	sec-Butylbenzene	0.17	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	sec-Dichloropropane	0.18	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	Styrene	0.17	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	tert-Butylbenzene	0.16	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	Tetrachloroethene	0.2	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	Tetrahydrofuran	2	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	trans-1,2-Dichloroethene	0.15	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	trans-1,3-Dichloropropene	0.19	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	Xylenes, Total	0.19	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	Trichlorofluoromethane	0.29	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	Vinyl acetate	0.94	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8260B	Vinyl chloride	0.1	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-140	8/9/2011	Field Duplicate	8270C	bis(2-Ethylhexyl) phthalate	50	µg/L	Primary Result	JB	U	V	B, F	26171H
PZ-140	8/9/2011	Field Duplicate	8270C	Diethyl phthalate	0.71	µg/L	Primary Result	J	J	V	TR	26171H
PZ-140	8/9/2011	Field Duplicate	8270C SIM	1-Methyl naphthalene	0.0054	µg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-140	8/9/2011	Field Duplicate	8270C SIM	Acenaphthylene	0.0095	µg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-140	8/9/2011	Field Duplicate	8270C SIM	Anthracene	0.014	µg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-140	8/9/2011	Field Duplicate	8270C SIM	Benzo(a)anthracene	0.0031	µg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-140	8/9/2011	Field Duplicate	8270C SIM	Benzo(k)fluoranthene	0.0048	µg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-140	8/9/2011	Field Duplicate	8270C SIM	bis(2-Ethylhexyl) phthalate	9.5	µg/L	Primary Result	J B HTV	UJ	V	B, H	26171H
PZ-140	8/9/2011	Field Duplicate	8270C SIM	Butyl benzyl phthalate	0.034	µg/L	Primary Result	JHTV	J	V	H, TR	26171H
PZ-140	8/9/2011	Field Duplicate	8270C SIM	2-Methylnaphthalene	0.0054	µg/L	Primary Result	JHTV	J	V	H, TR	26171H
PZ-140	8/9/2011	Field Duplicate	8270C SIM	Acenaphthene	0.01	µg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-140	8/9/2011	Field Duplicate	8270C SIM	Benzo(a)pyrene	0.0049	µg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-140	8/9/2011	Field Duplicate	8270C SIM	Benzo(b)fluoranthene	0.0033	µg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-140	8/9/2011	Field Duplicate	8270C SIM	Benzo(ghi)perylene	0.0034	µg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-140	8/9/2011	Field Duplicate	8270C SIM	Chrysene	0.003	µg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-140	8/9/2011	Field Duplicate	8270C SIM	Di-n-butyl phthalate	9.5	µg/L	Primary Result	J B HTV	UJ	V	B, F, H	26171H
PZ-140	8/9/2011	Field Duplicate	8270C SIM	Di-n-octyl phthalate	9.5	µg/L	Primary Result	J B HTV	UJ	V	B, F, H	26171H
PZ-140	8/9/2011	Field Duplicate	8270C SIM	Fluoranthene	0.0043	µg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-140	8/9/2011	Field Duplicate	8270C SIM	Fluorene	0.018	µg/L	Primary Result	UHTV	UJ	V	H	26171H

TABLE B-3
SUMMARY OF THIRD QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
PZ-140	8/9/2011	Field Duplicate	8270C SIM	Indeno(1,2,3-cd)pyrene	0.014	µg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-140	8/9/2011	Field Duplicate	8270C SIM	Dibenzo(a,h)anthracene	0.0046	µg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-140	8/9/2011	Field Duplicate	8270C SIM	Diethyl phthalate	0.71	µg/L	Primary Result	J B HTV	J	V	H, TR	26171H
PZ-140	8/9/2011	Field Duplicate	8270C SIM	Dimethyl phthalate	0.017	µg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-140	8/9/2011	Field Duplicate	8270C SIM	n-Nitrosodimethylamine	0.12	µg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-140	8/9/2011	Field Duplicate	8270C SIM	Naphthalene	0.0051	µg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-140	8/9/2011	Field Duplicate	8270C SIM	Phenanthrene	0.0093	µg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-140	8/9/2011	Field Duplicate	8270C SIM	Pyrene	0.0077	µg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-140	8/9/2011	Field Duplicate	8290	Octachlorodibenzo-p-dioxin	34	pg/L	Primary Result	J	U	V	F	26136H
PZ-140	8/9/2011	Field Duplicate	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26097H
PZ-140	8/9/2011	Primary Sample	300.0	Fluoride	0.43	mg/L	Primary Result	J	J	V	TR	26171H
PZ-140	8/9/2011	Primary Sample	6010B	Boron, Dissolved	0.046	mg/L	Primary Result	J	J	V	TR	26171H
PZ-140	8/9/2011	Primary Sample	6020	Molybdenum, Dissolved	0.0023	mg/L	Primary Result		U	V	F	26171H
PZ-140	8/9/2011	Primary Sample	6020	Thallium, Dissolved	0.000073	mg/L	Primary Result	JB	U	V	B, F	26171H
PZ-140	8/9/2011	Primary Sample	6020	Vanadium, Dissolved	0.0009	mg/L	Primary Result	J	J	V	TR	26171H
PZ-140	8/9/2011	Primary Sample	6020	Zinc, Dissolved	0.0026	mg/L	Primary Result	J	J	V	TR	26171H
PZ-140	8/9/2011	Primary Sample	8015B	Diesel Range Organics (C12-C14)	0.091	mg/L	Primary Result	J	J	V	TR	26171H
PZ-140	8/9/2011	Primary Sample	6020	Arsenic, Dissolved	0.00065	mg/L	Primary Result	J	J	V	TR	26171H
PZ-140	8/9/2011	Primary Sample	6020	Nickel, Dissolved	0.0027	mg/L	Primary Result		U	V	F	26171H
PZ-140	8/9/2011	Primary Sample	6020	Selenium, Dissolved	0.00096	mg/L	Primary Result	J	J	V	TR	26171H
PZ-140	8/9/2011	Primary Sample	7196A	Hexavalent Chromium	0.004	mg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-140	8/9/2011	Primary Sample	7196A	Hexavalent Chromium, Dissolved	0.004	mg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-140	8/9/2011	Primary Sample	8015B	Diesel Range Organics (C8-C30)	0.11	mg/L	Primary Result	J	J	V	TR	26171H
PZ-140	8/9/2011	Primary Sample	8270C	Diethyl phthalate	1.3	µg/L	Primary Result	J	J	V	TR	26171H
PZ-140	8/9/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	51	µg/L	Primary Result	JB	U	V	B, F	26171H
PZ-140	8/9/2011	Primary Sample	8270C SIM	bis(2-Ethylhexyl) phthalate	9.8	µg/L	Primary Result	JB	U	V	B	26171H
PZ-140	8/9/2011	Primary Sample	8270C SIM	Butyl benzyl phthalate	0.043	µg/L	Primary Result	J	J	V	TR	26171H
PZ-140	8/9/2011	Primary Sample	8270C SIM	Diethyl phthalate	1.4	µg/L	Primary Result	J	J	V	TR	26171H
PZ-140	8/9/2011	Primary Sample	8270C SIM	Naphthalene	0.0069	µg/L	Primary Result	J	J	V	TR	26171H
PZ-140	8/9/2011	Primary Sample	8270C SIM	Di-n-butyl phthalate	9.8	µg/L	Primary Result	JB	U	V	B, F	26171H
PZ-140	8/9/2011	Primary Sample	8270C SIM	Di-n-octyl phthalate	9.8	µg/L	Primary Result	JB	U	V	B, F	26171H
PZ-140	8/9/2011	Primary Sample	8290	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	4.6	pg/L	Primary Result	JQC	U	V	F	26136H
PZ-140	8/9/2011	Primary Sample	8290	Octachlorodibenzo-p-dioxin	63	pg/L	Primary Result	J	U	V	F	26136H
PZ-140	8/9/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B, F	26097H
PZ-141	8/1/2011	Primary Sample	300.0	Bromide	0.19	mg/L	Primary Result	J	J	V	TR	26136C
PZ-141	8/1/2011	Primary Sample	6020	Cadmium, Dissolved	0.00017	mg/L	Primary Result	J	J	V	TR	26136C
PZ-141	8/1/2011	Primary Sample	300.0	Fluoride	0.37	mg/L	Primary Result	J	J	V	TR	26136C
PZ-141	8/1/2011	Primary Sample	6020	Arsenic, Dissolved	0.0018	mg/L	Primary Result	J	J	V	TR	26136C
PZ-141	8/1/2011	Primary Sample	6020	Cobalt, Dissolved	0.0001	mg/L	Primary Result	J	J	V	TR	26136C
PZ-141	8/1/2011	Primary Sample	6020	Copper, Dissolved	0.00071	mg/L	Primary Result	J	J	V	TR	26136C
PZ-141	8/1/2011	Primary Sample	6020	Nickel, Dissolved	0.0018	mg/L	Primary Result	J	J	V	TR	26136C
PZ-141	8/1/2011	Primary Sample	6020	Selenium, Dissolved	0.002	mg/L	Primary Result	J	J	V	TR	26136C
PZ-141	8/1/2011	Primary Sample	6020	Silver, Dissolved	0.000029	mg/L	Primary Result	JB	U	V	B, F	26136C
PZ-141	8/1/2011	Primary Sample	7196A	Hexavalent Chromium	0.004	mg/L	Primary Result	U	UJ	V	H	26136C

TABLE B-3
SUMMARY OF THIRD QUARTER 2011 DATA QUALIFICATION
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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
PZ-141	8/1/2011	Primary Sample	7196A	Hexavalent Chromium, Dissolved	0.004	mg/L	Primary Result	U	UJ	V	H	26136C
PZ-141	8/1/2011	Primary Sample	6020	Thallium, Dissolved	0.00014	mg/L	Primary Result	JB	U	V	B, F	26136C
PZ-141	8/1/2011	Primary Sample	6020	Vanadium, Dissolved	0.0021	mg/L	Primary Result	J	J	V	TR	26136C
PZ-141	8/1/2011	Primary Sample	6020	Zinc, Dissolved	0.005	mg/L	Primary Result	J	U	V	F	26136C
PZ-141	8/1/2011	Primary Sample	8015B	Diesel Range Organics (C12-C14)	0.21	mg/L	Primary Result	J	J	V	TR	26136C
PZ-141	8/1/2011	Primary Sample	8015B	Diesel Range Organics (C21-C30)	0.045	mg/L	Primary Result	J	J	V	TR	26136C
PZ-141	8/1/2011	Primary Sample	8260B	Chloroform	0.28	µg/L	Primary Result	J	J	V	S, TR	26136C
PZ-141	8/1/2011	Primary Sample	8260B	Carbon Disulfide	0.45	µg/L	Primary Result	U	UJ	V	L	26136C
PZ-141	8/1/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	25	µg/L	Primary Result		J	V	S	26136C
PZ-141	8/1/2011	Primary Sample	8260B	cis-1,3-Dichloropropene	0.16	µg/L	Primary Result	U	UJ	V	Q	26136C
PZ-141	8/1/2011	Primary Sample	8260B	sec-Butylbenzene	0.17	µg/L	Primary Result	U	UJ	V	Q	26136C
PZ-141	8/1/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	1.6	µg/L	Primary Result		J	V	S	26136C
PZ-141	8/1/2011	Primary Sample	8260B	Trichloroethene	110	µg/L	Primary Result		J	V	S	26136C
PZ-141	8/1/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	47	µg/L	Primary Result	JB	U	V	B, F	26136C
PZ-141	8/1/2011	Primary Sample	8270C	Diethyl phthalate	2.8	µg/L	Primary Result	J	J	V	TR	26136C
PZ-141	8/1/2011	Primary Sample	8270C	Hexachlorocyclopentadiene	1.4	µg/L	Primary Result	U	R	V	L	26136C
PZ-141	8/1/2011	Primary Sample	8270C SIM	Butyl benzyl phthalate	0.054	µg/L	Primary Result	J	J	V	TR	26136C
PZ-141	8/1/2011	Primary Sample	8270C SIM	Di-n-butyl phthalate	9.7	µg/L	Primary Result	JB	U	V	B	26136C
PZ-141	8/1/2011	Primary Sample	8270C SIM	Diethyl phthalate	3	µg/L	Primary Result	J	J	V	TR	26136C
PZ-141	8/1/2011	Primary Sample	8270C SIM	Naphthalene	0.0054	µg/L	Primary Result	J	J	V	TR	26136C
PZ-141	8/1/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B, F	26097C
PZ-144	8/1/2011	Primary Sample	6020	Arsenic, Dissolved	0.0047	mg/L	Primary Result	J	J	V	TR	26136C
PZ-144	8/1/2011	Primary Sample	6020	Cadmium, Dissolved	0.000057	mg/L	Primary Result	J	J	V	TR	26136C
PZ-144	8/1/2011	Primary Sample	6020	Manganese, Dissolved	0.00069	mg/L	Primary Result	J	J	V	TR	26136C
PZ-144	8/1/2011	Primary Sample	6020	Nickel, Dissolved	0.00049	mg/L	Primary Result	J	J	V	TR	26136C
PZ-144	8/1/2011	Primary Sample	6020	Vanadium, Dissolved	0.0059	mg/L	Primary Result	J	J	V	TR	26136C
PZ-144	8/1/2011	Primary Sample	6020	Zinc, Dissolved	0.0049	mg/L	Primary Result	J	J	V	TR	26136C
PZ-144	8/1/2011	Primary Sample	7196A	Hexavalent Chromium	0.004	mg/L	Primary Result	UHTV	UJ	V	H	26136C
PZ-144	8/1/2011	Primary Sample	6020	Copper, Dissolved	0.00087	mg/L	Primary Result	J	J	V	TR	26136C
PZ-144	8/1/2011	Primary Sample	6020	Selenium, Dissolved	0.0024	mg/L	Primary Result	J	J	V	TR	26136C
PZ-144	8/1/2011	Primary Sample	7196A	Hexavalent Chromium, Dissolved	0.004	mg/L	Primary Result	UHTV	UJ	V	H	26136C
PZ-144	8/1/2011	Primary Sample	8260B	Carbon Disulfide	0.45	µg/L	Primary Result	U	UJ	V	L	26136C
PZ-144	8/1/2011	Primary Sample	8260B	Trichloroethene	2.7	µg/L	Primary Result		J	V	S	26136C
PZ-144	8/1/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	51	µg/L	Primary Result	JB	U	V	B, F	26136C
PZ-144	8/1/2011	Primary Sample	8270C	Di-n-octyl phthalate	2.4	µg/L	Primary Result	J	J	V	TR	26136C
PZ-144	8/1/2011	Primary Sample	8270C	Hexachlorocyclopentadiene	1.6	µg/L	Primary Result	U	R	V	L	26136C
PZ-144	8/1/2011	Primary Sample	8270C SIM	Benzo(a)anthracene	0.0059	µg/L	Primary Result	J	J	V	TR	26136C
PZ-144	8/1/2011	Primary Sample	8270C SIM	Butyl benzyl phthalate	0.099	µg/L	Primary Result	J	J	V	TR	26136C
PZ-144	8/1/2011	Primary Sample	8270C SIM	Chrysene	0.0062	µg/L	Primary Result	J	J	V	TR	26136C
PZ-144	8/1/2011	Primary Sample	8270C SIM	Di-n-butyl phthalate	10	µg/L	Primary Result	JB	U	V	B	26136C
PZ-144	8/1/2011	Primary Sample	8270C SIM	Di-n-octyl phthalate	10	µg/L	Primary Result	JB	U	V	B	26136C
PZ-144	8/1/2011	Primary Sample	8270C SIM	Diethyl phthalate	0.18	µg/L	Primary Result	J	J	V	TR	26136C
PZ-144	8/1/2011	Primary Sample	8270C SIM	Naphthalene	0.0075	µg/L	Primary Result	J	J	V	TR	26136C
PZ-144	8/1/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B, F	26097C

TABLE B-3
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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
PZ-146	8/3/2011	Primary Sample	6020	Cadmium, Dissolved	0.000047	mg/L	Primary Result	J	J	V	TR	26097E
PZ-146	8/3/2011	Primary Sample	6020	Chromium, Dissolved	0.00055	mg/L	Primary Result	J	J	V	TR	26097E
PZ-146	8/3/2011	Primary Sample	300.0	Nitrate-NO3	0.46	mg/L	Primary Result	J	J	V	TR	26097E
PZ-146	8/3/2011	Primary Sample	6020	Cobalt, Dissolved	0.00066	mg/L	Primary Result	J	J	V	TR	26097E
PZ-146	8/3/2011	Primary Sample	6020	Silver, Dissolved	0.000035	mg/L	Primary Result	JB	UJ	V	B, F, Q	26097E
PZ-146	8/3/2011	Primary Sample	6020	Thallium, Dissolved	0.000076	mg/L	Primary Result	JB	U	V	B, F	26097E
PZ-146	8/3/2011	Primary Sample	7196A	Hexavalent Chromium, Dissolved	0.004	mg/L	Primary Result	UHTV	UJ	V	H	26097E
PZ-146	8/3/2011	Primary Sample	8015B	Kerosene Range (C15-C20)	0.039	mg/L	Primary Result	J	J	V	TR	26097E
PZ-146	8/3/2011	Primary Sample	6020	Vanadium, Dissolved	0.0035	mg/L	Primary Result	J	J	V	TR	26097E
PZ-146	8/3/2011	Primary Sample	7196A	Hexavalent Chromium	0.004	mg/L	Primary Result	UHTV	UJ	V	H	26097E
PZ-146	8/3/2011	Primary Sample	8260B	Acetone	19	µg/L	Primary Result	B	U	V	B, T, F	26097E
PZ-146	8/3/2011	Primary Sample	8260B	Methylene chloride	1	µg/L	Primary Result	JB	U	V	B, T, F	26097E
PZ-146	8/3/2011	Primary Sample	8260B SIM	1,4-Dioxane	1	µg/L	Primary Result	J	J	V	TR	26097E
PZ-146	8/3/2011	Primary Sample	8270C	Phenol	3.6	µg/L	Primary Result	J	J	V	TR	26097E
PZ-146	8/3/2011	Primary Sample	8270C SIM	bis(2-Ethylhexyl) phthalate	11	µg/L	Primary Result	JB	U	V	B	26097E
PZ-146	8/3/2011	Primary Sample	8270C SIM	Di-n-octyl phthalate	11	µg/L	Primary Result	JB	U	V	B, F	26097E
PZ-146	8/3/2011	Primary Sample	8270C SIM	Diethyl phthalate	0.15	µg/L	Primary Result	J	J	V	TR	26097E
PZ-146	8/3/2011	Primary Sample	8270C SIM	Naphthalene	0.0072	µg/L	Primary Result	J	J	V	TR	26097E
PZ-146	8/3/2011	Primary Sample	8315	Formaldehyde	77	µg/L	Primary Result	B	U	V	F	26090K
PZ-147	8/9/2011	Primary Sample	300.0	Fluoride	0.12	mg/L	Primary Result	J	J	V	TR	26171H
PZ-147	8/9/2011	Primary Sample	300.0	Bromide	0.11	mg/L	Primary Result	J	J	V	TR	26171H
PZ-147	8/9/2011	Primary Sample	6020	Cadmium, Dissolved	0.000044	mg/L	Primary Result	J	J	V	TR	26171H
PZ-147	8/9/2011	Primary Sample	6020	Molybdenum, Dissolved	0.0015	mg/L	Primary Result		U	V	F	26171H
PZ-147	8/9/2011	Primary Sample	6020	Vanadium, Dissolved	0.00082	mg/L	Primary Result	J	J	V	TR	26171H
PZ-147	8/9/2011	Primary Sample	6010B	Potassium, Dissolved	0.87	mg/L	Primary Result	J	J	V	TR	26171H
PZ-147	8/9/2011	Primary Sample	6020	Arsenic, Dissolved	0.00032	mg/L	Primary Result	J	J	V	TR	26171H
PZ-147	8/9/2011	Primary Sample	6020	Cobalt, Dissolved	0.000067	mg/L	Primary Result	J	J	V	TR	26171H
PZ-147	8/9/2011	Primary Sample	6020	Nickel, Dissolved	0.00069	mg/L	Primary Result	J	U	V	F	26171H
PZ-147	8/9/2011	Primary Sample	7196A	Hexavalent Chromium	0.0056	mg/L	Primary Result	JHTV	J	V	H, TR	26171H
PZ-147	8/9/2011	Primary Sample	7196A	Hexavalent Chromium, Dissolved	0.004	mg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-147	8/9/2011	Primary Sample	8260B	1,1,1-Trichloroethane	0.16	µg/L	Primary Result	U	UJ	V	Q	26171H
PZ-147	8/9/2011	Primary Sample	8260B	1,2,3-Trichlorobenzene	0.21	µg/L	Primary Result	U	UJ	V	Q	26171H
PZ-147	8/9/2011	Primary Sample	8260B	1,2,4-Trichlorobenzene	0.21	µg/L	Primary Result	U	UJ	V	Q	26171H
PZ-147	8/9/2011	Primary Sample	8015B	Gasoline Range Organics (C8-C11)	0.078	mg/L	Primary Result	U	R	V	Q	26171H
PZ-147	8/9/2011	Primary Sample	8260B	1,1-Dichloropropene	0.19	µg/L	Primary Result	U	UJ	V	Q	26171H
PZ-147	8/9/2011	Primary Sample	8260B	1,2,4-Trimethylbenzene	0.15	µg/L	Primary Result	U	UJ	V	Q	26171H
PZ-147	8/9/2011	Primary Sample	8260B	1,2-Dibromo-3-chloropropane	0.47	µg/L	Primary Result	U	UJ	V	Q	26171H
PZ-147	8/9/2011	Primary Sample	8260B	2-Chloroethylvinyl ether	0.31	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-147	8/9/2011	Primary Sample	8260B	Acrolein	2.8	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-147	8/9/2011	Primary Sample	8260B	Acrylonitrile	1.4	µg/L	Primary Result	U	UJ	V	S	26171H
PZ-147	8/9/2011	Primary Sample	8260B	1,2-Dichlorobenzene	0.15	µg/L	Primary Result	U	UJ	V	Q	26171H
PZ-147	8/9/2011	Primary Sample	8260B	1,3,5-Trimethylbenzene	0.16	µg/L	Primary Result	U	UJ	V	Q	26171H
PZ-147	8/9/2011	Primary Sample	8260B	1,3-Dichlorobenzene	0.13	µg/L	Primary Result	U	UJ	V	Q	26171H
PZ-147	8/9/2011	Primary Sample	8260B	1,4-Dichlorobenzene	0.16	µg/L	Primary Result	U	UJ	V	Q	26171H

TABLE B-3
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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
PZ-147	8/9/2011	Primary Sample	8260B	Carbon Tetrachloride	0.19	µg/L	Primary Result	U	UJ	V	Q	26171H
PZ-147	8/9/2011	Primary Sample	8260B	Chlorobenzene	0.17	µg/L	Primary Result	U	UJ	V	Q	26171H
PZ-147	8/9/2011	Primary Sample	8260B	Dibromochloromethane	0.17	µg/L	Primary Result	U	UJ	V	Q	26171H
PZ-147	8/9/2011	Primary Sample	8260B	Ethylbenzene	0.16	µg/L	Primary Result	U	UJ	V	Q	26171H
PZ-147	8/9/2011	Primary Sample	8260B	Hexachlorobutadiene	0.12	µg/L	Primary Result	U	UJ	V	Q	26171H
PZ-147	8/9/2011	Primary Sample	8260B	n-Butylbenzene	0.14	µg/L	Primary Result	U	UJ	V	Q	26171H
PZ-147	8/9/2011	Primary Sample	8260B	Bromoform	0.19	µg/L	Primary Result	U	UJ	V	Q	26171H
PZ-147	8/9/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	16	µg/L	Primary Result		J	V	Q	26171H
PZ-147	8/9/2011	Primary Sample	8260B	m-Xylene & p-Xylene	0.34	µg/L	Primary Result	U	UJ	V	Q	26171H
PZ-147	8/9/2011	Primary Sample	8260B	n-Propylbenzene	0.16	µg/L	Primary Result	U	UJ	V	Q	26171H
PZ-147	8/9/2011	Primary Sample	8260B	o-Chlorotoluene	0.17	µg/L	Primary Result	U	UJ	V	Q	26171H
PZ-147	8/9/2011	Primary Sample	8260B	o-Xylene	0.19	µg/L	Primary Result	U	UJ	V	Q	26171H
PZ-147	8/9/2011	Primary Sample	8260B	Styrene	0.17	µg/L	Primary Result	U	UJ	V	Q	26171H
PZ-147	8/9/2011	Primary Sample	8260B	Tetrachloroethene	0.2	µg/L	Primary Result	U	UJ	V	Q	26171H
PZ-147	8/9/2011	Primary Sample	8260B	p-Chlorotoluene	0.21	µg/L	Primary Result	U	UJ	V	Q	26171H
PZ-147	8/9/2011	Primary Sample	8260B	p-Cymene	0.2	µg/L	Primary Result	U	UJ	V	Q	26171H
PZ-147	8/9/2011	Primary Sample	8260B	sec-Butylbenzene	0.17	µg/L	Primary Result	U	UJ	V	Q	26171H
PZ-147	8/9/2011	Primary Sample	8260B	tert-Butylbenzene	0.16	µg/L	Primary Result	U	UJ	V	Q	26171H
PZ-147	8/9/2011	Primary Sample	8260B	Xylenes, Total	0.19	µg/L	Primary Result	U	UJ	V	Q	26171H
PZ-147	8/9/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	47	µg/L	Primary Result	JB	U	V	B, F	26171H
PZ-147	8/9/2011	Primary Sample	8270C	Indeno(1,2,3-cd)pyrene	0.62	µg/L	Primary Result	U	UJ	V	Q	26171H
PZ-147	8/9/2011	Primary Sample	8270C SIM	2-Methylnaphthalene	0.0053	µg/L	Primary Result	JHTV	J	V	H, TR	26171H
PZ-147	8/9/2011	Primary Sample	8270C SIM	Acenaphthene	0.011	µg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-147	8/9/2011	Primary Sample	8270C SIM	Acenaphthylene	0.0099	µg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-147	8/9/2011	Primary Sample	8270C SIM	Benzo(b)fluoranthene	0.0034	µg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-147	8/9/2011	Primary Sample	8270C SIM	Benzo(ghi)perylene	0.0035	µg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-147	8/9/2011	Primary Sample	8270C SIM	Benzo(k)fluoranthene	0.005	µg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-147	8/9/2011	Primary Sample	8270C SIM	Di-n-butyl phthalate	10	µg/L	Primary Result	J B HTV	UJ	V	B, F, H	26171H
PZ-147	8/9/2011	Primary Sample	8270C SIM	Di-n-octyl phthalate	10	µg/L	Primary Result	J B HTV	UJ	V	B, F, H	26171H
PZ-147	8/9/2011	Primary Sample	8270C SIM	Dibenzo(a,h)anthracene	0.0048	µg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-147	8/9/2011	Primary Sample	8270C SIM	Fluorene	0.019	µg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-147	8/9/2011	Primary Sample	8270C SIM	Indeno(1,2,3-cd)pyrene	0.015	µg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-147	8/9/2011	Primary Sample	8270C SIM	n-Nitrosodimethylamine	0.13	µg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-147	8/9/2011	Primary Sample	8270C SIM	1-Methyl naphthalene	0.0056	µg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-147	8/9/2011	Primary Sample	8270C SIM	Anthracene	0.014	µg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-147	8/9/2011	Primary Sample	8270C SIM	Benzo(a)anthracene	0.0032	µg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-147	8/9/2011	Primary Sample	8270C SIM	Benzo(a)pyrene	0.0051	µg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-147	8/9/2011	Primary Sample	8270C SIM	bis(2-Ethylhexyl) phthalate	10	µg/L	Primary Result	J B HTV	UJ	V	B, F, H	26171H
PZ-147	8/9/2011	Primary Sample	8270C SIM	Butyl benzyl phthalate	0.032	µg/L	Primary Result	JHTV	J	V	H, TR	26171H
PZ-147	8/9/2011	Primary Sample	8270C SIM	Chrysene	0.0032	µg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-147	8/9/2011	Primary Sample	8270C SIM	Diethyl phthalate	10	µg/L	Primary Result	J B HTV	UJ	V	B, F, H	26171H
PZ-147	8/9/2011	Primary Sample	8270C SIM	Dimethyl phthalate	0.018	µg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-147	8/9/2011	Primary Sample	8270C SIM	Fluoranthene	0.0045	µg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-147	8/9/2011	Primary Sample	8270C SIM	Naphthalene	0.0053	µg/L	Primary Result	UHTV	UJ	V	H	26171H

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
PZ-147	8/9/2011	Primary Sample	8270C SIM	Phenanthrene	0.0097	µg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-147	8/9/2011	Primary Sample	8270C SIM	Pyrene	0.008	µg/L	Primary Result	UHTV	UJ	V	H	26171H
PZ-147	8/9/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B, F	26097H
PZ-149	7/28/2011	Primary Sample	300.0	Nitrate-NO3	0.19	mg/L	Primary Result	J	J	V	TR	26062D
PZ-149	7/28/2011	Primary Sample	300.0	Bromide	0.28	mg/L	Primary Result	J	J	V	TR	26062D
PZ-149	7/28/2011	Primary Sample	6010B	Iron, Dissolved	0.025	mg/L	Primary Result	J	J	V	TR	26062D
PZ-149	7/28/2011	Primary Sample	6020	Arsenic, Dissolved	0.00085	mg/L	Primary Result	J	J	V	TR	26062D
PZ-149	7/28/2011	Primary Sample	6020	Copper, Dissolved	0.0013	mg/L	Primary Result	J	J	V	TR	26062D
PZ-149	7/28/2011	Primary Sample	6020	Cadmium, Dissolved	0.000061	mg/L	Primary Result	J	J	V	TR	26062D
PZ-149	7/28/2011	Primary Sample	6020	Chromium, Dissolved	0.0011	mg/L	Primary Result	J	J	V	TR	26062D
PZ-149	7/28/2011	Primary Sample	6020	Cobalt, Dissolved	0.00019	mg/L	Primary Result	J	J	V	TR	26062D
PZ-149	7/28/2011	Primary Sample	6020	Nickel, Dissolved	0.0018	mg/L	Primary Result	J	J	V	TR	26062D
PZ-149	7/28/2011	Primary Sample	6020	Zinc, Dissolved	0.0023	mg/L	Primary Result	J	J	V	TR	26062D
PZ-149	7/28/2011	Primary Sample	8015B	Diesel Range Organics (C12-C14)	0.084	mg/L	Primary Result	J	J	V	TR	26062D
PZ-149	7/28/2011	Primary Sample	6020	Silver, Dissolved	0.000053	mg/L	Primary Result	J	U	V	F	26062D
PZ-149	7/28/2011	Primary Sample	6020	Vanadium, Dissolved	0.0016	mg/L	Primary Result	J	J	V	TR	26062D
PZ-149	7/28/2011	Primary Sample	8015B	Diesel Range Organics (C8-C30)	0.1	mg/L	Primary Result	J	J	V	TR	26062D
PZ-149	7/28/2011	Primary Sample	8260B	Methylene chloride	1	µg/L	Primary Result	JB	U	V	B, F, H	26062D
PZ-149	7/28/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	0.33	µg/L	Primary Result	J	J	V	TR	26062D
PZ-149	7/28/2011	Primary Sample	8260B SIM	1,4-Dioxane	1.3	µg/L	Primary Result	J	J	V	TR	26062D
PZ-149	7/28/2011	Primary Sample	8270C	Benzyl alcohol	20	µg/L	Primary Result	JB	U	V	B, F	26062D
PZ-149	7/28/2011	Primary Sample	8270C SIM	Butyl benzyl phthalate	0.1	µg/L	Primary Result	J	J	V	TR	26062D
PZ-149	7/28/2011	Primary Sample	8270C SIM	Di-n-butyl phthalate	0.19	µg/L	Primary Result	JB	J	V	TR	26062D
PZ-149	7/28/2011	Primary Sample	8270C SIM	Diethyl phthalate	0.75	µg/L	Primary Result	J	J	V	TR	26062D
PZ-149	7/28/2011	Primary Sample	8270C SIM	Naphthalene	0.011	µg/L	Primary Result	J	J	V	TR	26062D
PZ-149	7/28/2011	Primary Sample	8290	Octachlorodibenzo-p-dioxin	8.3	pg/L	Primary Result	JB	U	V	B, F	26090G
PZ-149	7/28/2011	Primary Sample	8290	Octachlorodibenzofuran	1.8	pg/L	Primary Result	U	UJ	V	E	26090G
RD-01	7/15/2011	Primary Sample	1625M	n-Nitrosodimethylamine	0.0096	µg/L	Lab Repeat Analysis	HTV	J	V	H	26013B
RD-01	7/15/2011	Primary Sample	300.0	Fluoride	0.37	mg/L	Primary Result	J	J	V	TR	26013B
RD-01	7/15/2011	Field Duplicate	1625M	n-Nitrosodimethylamine	0.01	µg/L	Lab Repeat Analysis	HTV	J	V	H	26050C
RD-01	7/15/2011	Primary Sample	350.1	Ammonia-N	0.074	mg/L	Primary Result	J	J	V	TR	26013B
RD-01	7/15/2011	Primary Sample	8260B	1,1-Dichloroethene	3.2	µg/L	Primary Result		J	V	S	26013B
RD-01	7/15/2011	Primary Sample	8260B	Trichloroethene	850	µg/L	Primary Result		J	V	S	26013B
RD-01	7/15/2011	Primary Sample	8260B	Vinyl chloride	14	µg/L	Primary Result		J	V	S	26013B
RD-01	7/15/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	890	µg/L	Primary Result		J	V	S	26013B
RD-01	7/15/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	26	µg/L	Primary Result		J	V	S	26013B
RD-01	7/15/2011	Primary Sample	8260B SIM	1,4-Dioxane	1.5	µg/L	Primary Result	J	J	V	TR	26013B
RD-01	7/15/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	25976A
RD-01	7/15/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	9.5	µg/L	Primary Result	JB	U	V	B	26013B
RD-01	7/15/2011	Primary Sample	9040B	pH	7.48	pH Units	Primary Result	HTV	J	V	H	26013B
RD-02	7/15/2011	Primary Sample	1625M	n-Nitrosodimethylamine	0.009	µg/L	Lab Repeat Analysis	HTV	J	V	H	26013B
RD-02	7/15/2011	Primary Sample	350.1	Ammonia-N	0.075	mg/L	Primary Result	J	J	V	TR	26013B
RD-02	7/15/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	1300	µg/L	Primary Result		J	V	S	26013B
RD-02	7/15/2011	Field Duplicate	1625M	n-Nitrosodimethylamine	0.0077	µg/L	Lab Repeat Analysis	HTV	J	V	H	26050C

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
RD-02	7/15/2011	Primary Sample	300.0	Fluoride	0.37	mg/L	Primary Result	J	J	V	TR	26013B
RD-02	7/15/2011	Primary Sample	8260B	1,1-Dichloroethene	5.3	µg/L	Primary Result		J	V	S	26013B
RD-02	7/15/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	55	µg/L	Primary Result		J	V	S	26013B
RD-02	7/15/2011	Primary Sample	8260B	Trichloroethene	1200	µg/L	Primary Result		J	V	S	26013B
RD-02	7/15/2011	Primary Sample	8260B	Vinyl chloride	5.1	µg/L	Primary Result		J	V	S	26013B
RD-02	7/15/2011	Primary Sample	8260B SIM	1,4-Dioxane	1.3	µg/L	Primary Result	J	J	V	TR	26013B
RD-02	7/15/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	25976A
RD-02	7/15/2011	Primary Sample	DV-WC-0077	Monomethylhydrazine	0.86	µg/L	Primary Result	JHTV	J	V	TR	26013B
RD-02	7/15/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	2.1	µg/L	Primary Result	JB	J	V	TR	26013B
RD-02	7/15/2011	Primary Sample	9040B	pH	7.2	pH Units	Primary Result	HTV	J	V	H	26013B
PZ-154	7/27/2011	Primary Sample	6020	Arsenic, Dissolved	0.0028	mg/L	Primary Result	J	J	V	TR	26097A
PZ-154	7/27/2011	Primary Sample	6020	Cobalt, Dissolved	0.00063	mg/L	Primary Result	J	J	V	TR	26097A
PZ-154	7/27/2011	Primary Sample	6020	Copper, Dissolved	0.001	mg/L	Primary Result	J	J	V	TR	26097A
PZ-154	7/27/2011	Primary Sample	300.0	Bromide	0.22	mg/L	Primary Result	J	J	V	TR	26097A
PZ-154	7/27/2011	Primary Sample	6020	Cadmium, Dissolved	0.00015	mg/L	Primary Result	J	J	V	TR	26097A
PZ-154	7/27/2011	Primary Sample	6020	Nickel, Dissolved	0.0029	mg/L	Primary Result		U	V	F	26097A
PZ-154	7/27/2011	Primary Sample	6020	Vanadium, Dissolved	0.0028	mg/L	Primary Result	J	J	V	TR	26097A
PZ-154	7/27/2011	Primary Sample	6020	Zinc, Dissolved	0.0036	mg/L	Primary Result	J	J	V	TR	26097A
PZ-154	7/27/2011	Primary Sample	8015B	Diesel Range Organics (C12-C14)	0.16	mg/L	Primary Result	J	J	V	TR	26097A
PZ-154	7/27/2011	Primary Sample	6020	Silver, Dissolved	0.000033	mg/L	Primary Result	J	U	V	F	26097A
PZ-154	7/27/2011	Primary Sample	6020	Thallium, Dissolved	0.00006	mg/L	Primary Result	J	U	V	F	26097A
PZ-154	7/27/2011	Primary Sample	8015B	Kerosene Range (C15-C20)	0.063	mg/L	Primary Result	J	J	V	TR	26097A
PZ-154	7/27/2011	Primary Sample	8015B	Diesel Range Organics (C21-C30)	0.043	mg/L	Primary Result	J	J	V	TR	26097A
PZ-154	7/27/2011	Primary Sample	8260B	Acetone	10	µg/L	Primary Result	J	U	V	F	26097A
PZ-154	7/27/2011	Primary Sample	8260B	Chloroform	2.1	µg/L	Primary Result		U	V	F	26097A
PZ-154	7/27/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	16000	µg/L	Primary Result	HTV	J	V	H	26097A
PZ-154	7/27/2011	Primary Sample	8260B	Methylene chloride	2.4	µg/L	Primary Result	B	U	V	B	26097A
PZ-154	7/27/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	160	µg/L	Primary Result	JHTV	J	V	H	26097A
PZ-154	7/27/2011	Primary Sample	8260B	Trichloroethene	6200	µg/L	Primary Result	HTV	J	V	H	26097A
PZ-154	7/27/2011	Primary Sample	8260B	Vinyl chloride	40	µg/L	Primary Result	UHTV	UJ	V	H	26097A
PZ-154	7/27/2011	Primary Sample	8270C	Diethyl phthalate	0.96	µg/L	Primary Result	J	J	V	TR	26097A
PZ-154	7/27/2011	Primary Sample	8290	Octachlorodibenzo-p-dioxin	1.7	pg/L	Primary Result	JBQC	U	V	B, F	26117A
PZ-154	7/27/2011	Primary Sample	8290	Octachlorodibenzofuran	0.99	pg/L	Primary Result	U	UJ	V	E	26117A
PZ-154	7/27/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26041D
PZ-155	7/29/2011	Primary Sample	300.0	Bromide	0.16	mg/L	Primary Result	J	J	V	TR	26090H
PZ-155	7/29/2011	Primary Sample	300.0	Fluoride	0.36	mg/L	Primary Result	J	J	V	TR	26090H
PZ-155	7/29/2011	Primary Sample	6020	Cadmium, Dissolved	0.0001	mg/L	Primary Result	J	J	V	TR	26090H
PZ-155	7/29/2011	Primary Sample	6020	Cobalt, Dissolved	0.00086	mg/L	Primary Result	J	J	V	TR	26090H
PZ-155	7/29/2011	Primary Sample	6020	Arsenic, Dissolved	0.0019	mg/L	Primary Result	J	J	V	TR	26090H
PZ-155	7/29/2011	Primary Sample	6020	Copper, Dissolved	0.001	mg/L	Primary Result	J	J	V	TR	26090H
PZ-155	7/29/2011	Primary Sample	6020	Thallium, Dissolved	0.000061	mg/L	Primary Result	JB	U	V	B, F	26090H
PZ-155	7/29/2011	Primary Sample	6020	Vanadium, Dissolved	0.0022	mg/L	Primary Result	J	J	V	TR	26090H
PZ-155	7/29/2011	Primary Sample	8015B	Diesel Range Organics (C21-C30)	0.045	mg/L	Primary Result	J	J	V	TR	26090H
PZ-155	7/29/2011	Primary Sample	6020	Zinc, Dissolved	0.0034	mg/L	Primary Result	J	J	V	TR	26090H

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
PZ-155	7/29/2011	Primary Sample	8260B	1,1-Dichloroethene	0.78	µg/L	Primary Result	J	U	V	T	26090H
PZ-155	7/29/2011	Primary Sample	8260B	2-Chloroethylvinyl ether	0.31	µg/L	Primary Result	UHTV	UJ	V	H, S	26090H
PZ-155	7/29/2011	Primary Sample	8260B	Acrolein	2.8	µg/L	Primary Result	UHTV	UJ	V	H, S	26090H
PZ-155	7/29/2011	Primary Sample	8260B	Acrylonitrile	1.4	µg/L	Primary Result	UHTV	UJ	V	H, S	26090H
PZ-155	7/29/2011	Primary Sample	8260B	Carbon Tetrachloride	0.19	µg/L	Primary Result	U	UJ	V	L	26090H
PZ-155	7/29/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	110	µg/L	Primary Result	HTV	J	V	H	26090H
PZ-155	7/29/2011	Primary Sample	8260B	Trichloroethene	1200	µg/L	Primary Result	HTV	J	V	H	26090H
PZ-155	7/29/2011	Primary Sample	8260B	Trichlorofluoromethane	0.29	µg/L	Primary Result	U	UJ	V	L	26090H
PZ-155	7/29/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	50	µg/L	Primary Result	JB	U	V	B, F	26090H
PZ-155	7/29/2011	Primary Sample	8270C	Diethyl phthalate	1.7	µg/L	Primary Result	J	J	V	TR	26090H
PZ-155	7/29/2011	Primary Sample	8270C	n-Nitrosodi-n-propylamine	1.2	µg/L	Primary Result	J	J	V	TR	26090H
PZ-155	7/29/2011	Primary Sample	8290	Octachlorodibenzo-p-dioxin	3.1	pg/L	Primary Result	JBQC	U	V	B, F	26090I
PZ-155	7/29/2011	Primary Sample	8290	Octachlorodibenzofuran	2.3	pg/L	Primary Result	U	UJ	V	E	26090I
PZ-155	7/29/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B, F	26041F
PZ-157	7/22/2011	Primary Sample	6020	Nickel, Dissolved	0.0015	mg/L	Primary Result	J	U	V	F	26050D
PZ-157	7/22/2011	Primary Sample	6020	Vanadium, Dissolved	0.0024	mg/L	Primary Result	J	J	V	TR	26050D
PZ-157	7/22/2011	Primary Sample	6020	Zinc, Dissolved	0.0035	mg/L	Primary Result	J	J	V	TR	26050D
PZ-157	7/22/2011	Primary Sample	300.0	Fluoride	0.26	mg/L	Primary Result	J	J	V	TR	26050D
PZ-157	7/22/2011	Primary Sample	300.0	Nitrate-NO3	1.8	mg/L	Primary Result	J	J	V	TR	26050D
PZ-157	7/22/2011	Primary Sample	6020	Arsenic, Dissolved	0.0025	mg/L	Primary Result	J	J	V	TR	26050D
PZ-157	7/22/2011	Primary Sample	6020	Cobalt, Dissolved	0.0001	mg/L	Primary Result	J	J	V	TR	26050D
PZ-157	7/22/2011	Primary Sample	6020	Copper, Dissolved	0.00089	mg/L	Primary Result	J	J	V	TR	26050D
PZ-157	7/22/2011	Primary Sample	8015B	Kerosene Range (C15-C20)	0.033	mg/L	Primary Result	J	J	V	TR	26050D
PZ-157	7/22/2011	Primary Sample	8015B	Diesel Range Organics (C21-C30)	0.042	mg/L	Primary Result	J	J	V	TR	26050D
PZ-157	7/22/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	48	µg/L	Primary Result	JB	U	V	B, F	26050D
PZ-157	7/22/2011	Primary Sample	8270C	Diethyl phthalate	0.45	µg/L	Primary Result	J	J	V	TR	26050D
PZ-157	7/22/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B, F	26034C
PZ-157	7/22/2011	Primary Sample	8290	Octachlorodibenzo-p-dioxin	2.1	pg/L	Primary Result	JBQC	U	V	B, F	26068B
PZ-158	7/22/2011	Primary Sample	300.0	Bromide	0.42	mg/L	Primary Result	J	J	V	TR	26050D
PZ-158	7/22/2011	Primary Sample	300.0	Fluoride	0.3	mg/L	Primary Result	J	J	V	TR	26050D
PZ-158	7/22/2011	Primary Sample	6010B	Aluminum, Dissolved	0.069	mg/L	Primary Result	J	J	V	TR	26050D
PZ-158	7/22/2011	Primary Sample	6020	Arsenic, Dissolved	0.0026	mg/L	Primary Result	J	J	V	TR	26050D
PZ-158	7/22/2011	Primary Sample	6020	Chromium, Dissolved	0.00058	mg/L	Primary Result	J	J	V	TR	26050D
PZ-158	7/22/2011	Primary Sample	6020	Cobalt, Dissolved	0.00037	mg/L	Primary Result	J	J	V	TR	26050D
PZ-158	7/22/2011	Primary Sample	6020	Copper, Dissolved	0.001	mg/L	Primary Result	J	J	V	TR	26050D
PZ-158	7/22/2011	Primary Sample	6020	Nickel, Dissolved	0.0019	mg/L	Primary Result	J	J	V	TR	26050D
PZ-158	7/22/2011	Primary Sample	6020	Selenium, Dissolved	0.0017	mg/L	Primary Result	J	J	V	TR	26050D
PZ-158	7/22/2011	Primary Sample	8015B	Diesel Range Organics (C12-C14)	0.17	mg/L	Primary Result	J	J	V	TR	26050D
PZ-158	7/22/2011	Primary Sample	8015B	Kerosene Range (C15-C20)	0.042	mg/L	Primary Result	J	J	V	TR	26050D
PZ-158	7/22/2011	Primary Sample	8015B	Diesel Range Organics (C21-C30)	0.17	mg/L	Primary Result	J	J	V	TR	26050D
PZ-158	7/22/2011	Primary Sample	6010B	Iron, Dissolved	0.087	mg/L	Primary Result	J	J	V	TR	26050D
PZ-158	7/22/2011	Primary Sample	6020	Cadmium, Dissolved	0.00012	mg/L	Primary Result	J	J	V	TR	26050D
PZ-158	7/22/2011	Primary Sample	6020	Thallium, Dissolved	0.000022	mg/L	Primary Result	J	U	V	F	26050D
PZ-158	7/22/2011	Primary Sample	6020	Vanadium, Dissolved	0.003	mg/L	Primary Result	J	J	V	TR	26050D

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
PZ-158	7/22/2011	Primary Sample	6020	Zinc, Dissolved	0.0059	mg/L	Primary Result	J	J	V	TR	26050D
PZ-158	7/22/2011	Primary Sample	8260B	Tetrachloroethene	0.32	µg/L	Primary Result	J	J	V	TR	26050D
PZ-158	7/22/2011	Primary Sample	8260B	Trichloroethene	0.31	µg/L	Primary Result	J	J	V	TR	26050D
PZ-158	7/22/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	50	µg/L	Primary Result	JB	U	V	B, F	26050D
PZ-158	7/22/2011	Primary Sample	8270C	Diethyl phthalate	0.47	µg/L	Primary Result	J	J	V	TR	26050D
PZ-158	7/22/2011	Primary Sample	8270C	Benzyl alcohol	20	µg/L	Primary Result	JB	U	V	B	26050D
PZ-158	7/22/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B, F	26034C
PZ-159	7/22/2011	Primary Sample	300.0	Nitrate-NO3	0.34	mg/L	Primary Result	J	J	V	TR	26050D
PZ-159	7/22/2011	Primary Sample	300.0	Fluoride	0.29	mg/L	Primary Result	J	J	V	TR	26050D
PZ-159	7/22/2011	Primary Sample	6020	Chromium, Dissolved	0.0014	mg/L	Primary Result	J	J	V	TR	26050D
PZ-159	7/22/2011	Primary Sample	6020	Cobalt, Dissolved	0.00079	mg/L	Primary Result	J	J	V	TR	26050D
PZ-159	7/22/2011	Primary Sample	8015B	Diesel Range Organics (C12-C14)	0.095	mg/L	Primary Result	J	J	V	TR	26050D
PZ-159	7/22/2011	Primary Sample	6020	Arsenic, Dissolved	0.0019	mg/L	Primary Result	J	J	V	TR	26050D
PZ-159	7/22/2011	Primary Sample	6020	Lead, Dissolved	0.0009	mg/L	Primary Result	J	J	V	TR	26050D
PZ-159	7/22/2011	Primary Sample	6020	Thallium, Dissolved	0.000041	mg/L	Primary Result	J	U	V	F	26050D
PZ-159	7/22/2011	Primary Sample	6020	Vanadium, Dissolved	0.0042	mg/L	Primary Result	J	J	V	TR	26050D
PZ-159	7/22/2011	Primary Sample	8015B	Diesel Range Organics (C21-C30)	0.038	mg/L	Primary Result	J	J	V	TR	26050D
PZ-159	7/22/2011	Primary Sample	8015B	Diesel Range Organics (C8-C30)	0.16	mg/L	Primary Result	J	J	V	TR	26050D
PZ-159	7/22/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	48	µg/L	Primary Result	JB	U	V	B	26050D
PZ-159	7/22/2011	Primary Sample	8270C	Benzyl alcohol	19	µg/L	Primary Result	JB	U	V	B	26050D
PZ-159	7/22/2011	Primary Sample	8270C	Diethyl phthalate	1	µg/L	Primary Result	J	J	V	TR	26050D
PZ-159	7/22/2011	Primary Sample	8270C SIM	bis(2-Ethylhexyl) phthalate	0.16	µg/L	Primary Result	J	J	V	TR	26050D
PZ-159	7/22/2011	Primary Sample	8270C SIM	Di-n-octyl phthalate	9.5	µg/L	Primary Result	JB	U	V	B	26050D
PZ-159	7/22/2011	Primary Sample	8270C SIM	Diethyl phthalate	0.46	µg/L	Primary Result	J	J	V	TR	26050D
PZ-159	7/22/2011	Primary Sample	8270C SIM	2-Methylnaphthalene	0.0053	µg/L	Primary Result	J	J	V	TR	26050D
PZ-159	7/22/2011	Primary Sample	8270C SIM	Butyl benzyl phthalate	0.042	µg/L	Primary Result	J	J	V	TR	26050D
PZ-159	7/22/2011	Primary Sample	8270C SIM	Di-n-butyl phthalate	9.5	µg/L	Primary Result	JB	U	V	B	26050D
PZ-159	7/22/2011	Primary Sample	8270C SIM	Fluoranthene	9.5	µg/L	Primary Result	JB	U	V	B	26050D
PZ-159	7/22/2011	Primary Sample	8270C SIM	Naphthalene	0.01	µg/L	Primary Result	J	J	V	TR	26050D
PZ-159	7/22/2011	Primary Sample	8290	Octachlorodibenzo-p-dioxin	4.7	pg/L	Primary Result	JBQC	U	V	B, F	26068B
PZ-159	7/22/2011	Primary Sample	8290	Octachlorodibenzofuran	2.9	pg/L	Primary Result	JB	U	V	B	26068B
RD-09	7/13/2011	Primary Sample	8260B	1,1-Dichloroethene	0.65	µg/L	Primary Result	J	J	V	TR	25950E
RD-09	7/13/2011	Primary Sample	8260B	Vinyl chloride	0.79	µg/L	Primary Result	J	J	V	TR	25950E
RD-09	7/13/2011	Primary Sample	8260B SIM	1,4-Dioxane	1.2	µg/L	Primary Result	J	J	V	TR	25950E
RD-03	8/5/2011	Primary Sample	300.0	Fluoride	0.43	mg/L	Primary Result	J	J	V	TR	26171E
RD-03	8/5/2011	Primary Sample	8260B	1,1-Dichloroethane	0.22	µg/L	Primary Result	U	UJ	V	S	26171E
RD-03	8/5/2011	Primary Sample	8260B	1,1-Dichloroethene	0.23	µg/L	Primary Result	U	UJ	V	S	26171E
RD-03	8/5/2011	Primary Sample	8260B	1,2-Dichloroethane	0.13	µg/L	Primary Result	U	UJ	V	S	26171E
RD-03	8/5/2011	Primary Sample	8260B	Benzene	0.16	µg/L	Primary Result	U	UJ	V	S	26171E
RD-03	8/5/2011	Primary Sample	8260B	Carbon Tetrachloride	0.19	µg/L	Primary Result	U	UJ	V	S	26171E
RD-03	8/5/2011	Primary Sample	8260B	Chloroform	0.16	µg/L	Primary Result	U	UJ	V	S	26171E
RD-03	8/5/2011	Primary Sample	8260B	1,1,1-Trichloroethane	0.16	µg/L	Primary Result	U	UJ	V	S	26171E
RD-03	8/5/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	0.42	µg/L	Primary Result	U	UJ	V	S	26171E
RD-03	8/5/2011	Primary Sample	8260B	1,1,2-Trichloroethane	0.27	µg/L	Primary Result	U	UJ	V	S	26171E

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
RD-03	8/5/2011	Primary Sample	8260B	Acetone	1.9	µg/L	Primary Result	U	UJ	V	S	26171E
RD-03	8/5/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	0.15	µg/L	Primary Result	U	UJ	V	S	26171E
RD-03	8/5/2011	Primary Sample	8260B	Ethylbenzene	0.16	µg/L	Primary Result	U	UJ	V	S	26171E
RD-03	8/5/2011	Primary Sample	8260B	Methylene chloride	0.32	µg/L	Primary Result	U	UJ	V	S	26171E
RD-03	8/5/2011	Primary Sample	8260B	o-Xylene	0.19	µg/L	Primary Result	U	UJ	V	S	26171E
RD-03	8/5/2011	Primary Sample	8260B	Tetrachloroethene	0.2	µg/L	Primary Result	U	UJ	V	S	26171E
RD-03	8/5/2011	Primary Sample	8260B	Trichloroethene	0.16	µg/L	Primary Result	U	UJ	V	S	26171E
RD-03	8/5/2011	Primary Sample	8260B	Trichlorofluoromethane	0.29	µg/L	Primary Result	U	UJ	V	S	26171E
RD-03	8/5/2011	Primary Sample	8260B	Vinyl chloride	0.1	µg/L	Primary Result	U	UJ	V	S	26171E
RD-03	8/5/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	1.7	µg/L	Primary Result	J	J	V	TR	26171E
RD-03	8/5/2011	Primary Sample	8260B	Isopropanol	13	µg/L	Primary Result	U	UJ	V	S	26171E
RD-03	8/5/2011	Primary Sample	8260B	m-Xylene & p-Xylene	0.34	µg/L	Primary Result	U	UJ	V	S	26171E
RD-03	8/5/2011	Primary Sample	8260B	Methyl ethyl ketone	2	µg/L	Primary Result	U	UJ	V	S	26171E
RD-03	8/5/2011	Primary Sample	8260B	Toluene	0.17	µg/L	Primary Result	U	UJ	V	S	26171E
RD-03	8/5/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	0.15	µg/L	Primary Result	U	UJ	V	S	26171E
RD-03	8/5/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26136D
RD-05A	7/19/2011	Primary Sample	300.0	Fluoride	0.063	mg/L	Primary Result	J	J	V	TR	26013D
RD-05A	7/19/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	25976C
RD-05A	7/19/2011	Primary Sample	9040B	pH	7.2	pH Units	Primary Result	HTV	J	V	H	26013D
RD-05B	7/19/2011	Primary Sample	350.1	Ammonia-N	0.1	mg/L	Primary Result	J	J	V	TR	26013D
RD-05B	7/19/2011	Primary Sample	8260B	Acetone	20	µg/L	Primary Result		UJ	V	S, T	26013D
RD-05B	7/19/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	25976C
RD-05B	7/19/2011	Primary Sample	9040B	pH	9.25	pH Units	Primary Result	HTV	J	V	H	26013D
RD-05C	7/19/2011	Primary Sample	350.1	Ammonia-N	0.22	mg/L	Primary Result	J	J	V	TR	26013D
RD-05C	7/19/2011	Primary Sample	8260B	Acetone	2.1	µg/L	Primary Result	J	UJ	V	L, S, T	26013D
RD-05C	7/19/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	25976C
RD-05C	7/19/2011	Primary Sample	9040B	pH	7.68	pH Units	Primary Result	HTV	J	V	H	26013D
RD-06	7/19/2011	Primary Sample	8260B	Acetone	10	µg/L	Primary Result	JB	U	V	B, T	26013D
RD-06	7/19/2011	Primary Sample	8260B	Methylene chloride	5	µg/L	Primary Result	JB	U	V	B, T	26013D
RD-06	7/19/2011	Primary Sample	8260B SIM	1,4-Dioxane	0.71	µg/L	Primary Result	J	J	V	TR	26013D
RD-06	7/19/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	25976C
RD-06	7/19/2011	Primary Sample	9040B	pH	7.14	pH Units	Primary Result	HTV	J	V	H	26013D
RD-07	7/21/2011	Primary Sample	8260B	Acetone	3.3	µg/L	Primary Result	J	J	V	S, TR	26041B
RD-07	7/21/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	50	µg/L	Primary Result	J	J	V	S	26041B
RD-07	7/21/2011	Primary Sample	900.0	Gross Alpha, Dissolved	16.966	pCi/L	Primary Result	J	J	V	L	26136B
RD-07	7/21/2011	Primary Sample	8260B	Trichloroethene	1.4	µg/L	Primary Result		J	V	S	26041B
RD-07	7/21/2011	Primary Sample	900.0	Gross alpha, Particulate	-0.13	pCi/L	Primary Result	U	UJ	V	L	26136B
RD-08	7/12/2011	Primary Sample	300.0	Fluoride	0.14	mg/L	Primary Result	J	J	V	TR	26013A
RD-08	7/12/2011	Primary Sample	1625M	n-Nitrosodimethylamine	0.005	µg/L	Primary Result	UHTV	UJ	V	H	26013A
RD-08	7/12/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	0.33	µg/L	Primary Result	J	J	V	TR	26013A
RD-08	7/12/2011	Primary Sample	8260B	Acetone	4.6	µg/L	Primary Result	J	J	V	TR	26013A
RD-08	7/12/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	25950C
RD-08	7/12/2011	Primary Sample	9040B	pH	8.54	pH Units	Primary Result	HTV	J	V	H	26013A
RD-104	7/27/2011	Primary Sample	300.0	Fluoride	0.31	mg/L	Primary Result	J	J	V	TR	26097A

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
RD-104	7/27/2011	Primary Sample	8015B	Diesel Range Organics (C12-C14)	0.057	mg/L	Primary Result	J	J	V	TR	26097A
RD-104	7/27/2011	Primary Sample	8015B	Kerosene Range (C15-C20)	0.085	mg/L	Primary Result	J	J	V	TR	26097A
RD-104	7/27/2011	Primary Sample	8015B	Diesel Range Organics (C21-C30)	0.037	mg/L	Primary Result	J	J	V	TR	26097A
RD-104	7/27/2011	Primary Sample	350.1	Ammonia-N	0.075	mg/L	Primary Result	JB	U	V	B	26097A
RD-104	7/27/2011	Primary Sample	8015B	Diesel Range Organics (C8-C30)	0.2	mg/L	Primary Result	J	J	V	TR	26097A
RD-104	7/27/2011	Primary Sample	8260B	Acetone	10	µg/L	Primary Result	J	U	V	T, F	26097A
RD-104	7/27/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	0.66	µg/L	Primary Result	J	J	V	TR	26097A
RD-104	7/27/2011	Primary Sample	8270C	Diethyl phthalate	0.49	µg/L	Primary Result	J	J	V	TR	26097A
RD-104	7/27/2011	Primary Sample	DV-WC-0077	1,1-Dimethylhydrazine	1.5	µg/L	Primary Result	J	J	V	TR	26097A
RD-104	7/27/2011	Primary Sample	8260B SIM	1,4-Dioxane	1.4	µg/L	Primary Result	J	J	V	TR	26097A
RD-104	7/27/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B, F	26041D
RD-11	7/19/2011	Field Duplicate	4500	Sulfide	0.091	mg/L	Primary Result	J	J	V	TR	26013D
RD-11	7/19/2011	Primary Sample	1625M	n-Nitrosodimethylamine	0.005	µg/L	Lab Repeat Analysis	UHTV	UJ	V	H	26013D
RD-11	7/19/2011	Primary Sample	4500	Sulfide	0.088	mg/L	Primary Result	J	J	V	TR	26013D
RD-11	7/19/2011	Primary Sample	300.0	Fluoride	0.4	mg/L	Primary Result	J	J	V	TR	26013D
RD-11	7/19/2011	Primary Sample	8260B	Acetone	10	µg/L	Primary Result	B	U	V	B	26013D
RD-11	7/19/2011	Primary Sample	8260B	Methylene chloride	5	µg/L	Primary Result	JB	U	V	B, T	26013D
RD-11	7/19/2011	Primary Sample	9040B	pH	8.24	pH Units	Primary Result	HTV	J	V	H	26013D
RD-11	7/19/2011	Split Sample	4500	Sulfide	0.084	mg/L	Primary Result	J	J	IV	TR	26047C
RD-11	7/19/2011	Primary Sample	8290	Octachlorodibenzo-p-dioxin	1.9	pg/L	Primary Result	JBQC	U	IV	B	26040A
RD-11	7/19/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	25976C
RD-11	7/19/2011	Split Sample	8290	Octachlorodibenzo-p-dioxin	1.8	pg/L	Primary Result	J,Q,B	U	IV	B	26047C
RD-12	7/19/2011	Primary Sample	300.0	Fluoride	0.32	mg/L	Primary Result	J	J	V	TR	26013D
RD-12	7/19/2011	Primary Sample	8260B	Acetone	9.6	µg/L	Primary Result	J	J	V	TR	26013D
RD-12	7/19/2011	Split Sample	9014	Cyanides	0.0031	mg/L	Primary Result	J	J	IV	TR	26047C
RD-12	7/19/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	25976C
RD-12	7/19/2011	Primary Sample	9012	Cyanides	0.0023	mg/L	Primary Result	J	J	V	TR	26013D
RD-12	7/19/2011	Primary Sample	9040B	pH	7.85	pH Units	Primary Result	HTV	J	V	H	26013D
RD-13	7/13/2011	Primary Sample	8260B	Methylene chloride	5	µg/L	Primary Result	J	U	V	T	25950E
RD-13	7/13/2011	Primary Sample	908.0	Uranium-235, Dissolved	0.22	pCi/L	Primary Result	J	J	V	TR	26090C
RD-14	7/14/2011	Primary Sample	300.0	Fluoride	0.12	mg/L	Primary Result	J	J	V	TR	25989A
RD-14	7/14/2011	Primary Sample	8260B	Acetone	3.4	µg/L	Primary Result	J	J	V	L, TR	25989A
RD-14	7/14/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	0.67	µg/L	Primary Result	J	J	V	TR	25989A
RD-14	7/14/2011	Primary Sample	900.0	Gross Alpha, Dissolved	1.009	pCi/L	Primary Result	U	UJ	V	L	26090D
RD-14	7/14/2011	Primary Sample	900.0	Gross alpha, Particulate	-0.731	pCi/L	Primary Result	U	UJ	V	L	26090D
RD-14	7/14/2011	Primary Sample	908.0	Uranium-233/234, Particulate	0.154	pCi/L	Primary Result	U	UJ	V	*VIII	26090D
RD-14	7/14/2011	Primary Sample	908.0	Uranium, Particulate	-0.017	pCi/L	Primary Result	U	UJ	V	*VIII	26090D
RD-14	7/14/2011	Primary Sample	908.0	Uranium-235, Particulate	0.02	pCi/L	Primary Result	U	UJ	V	*VIII	26090D
RD-18	7/18/2011	Primary Sample	300.0	Fluoride	0.37	mg/L	Primary Result	J	J	V	TR	26013C
RD-18	7/18/2011	Primary Sample	6020	Antimony	0.00021	mg/L	Primary Result	J	J	V	TR	26013C
RD-18	7/18/2011	Primary Sample	6020	Antimony, Dissolved	0.00022	mg/L	Primary Result	J	J	V	TR	26013C
RD-18	7/18/2011	Primary Sample	6020	Arsenic	0.0011	mg/L	Primary Result	J	J	V	TR	26013C
RD-18	7/18/2011	Primary Sample	6020	Arsenic, Dissolved	0.0011	mg/L	Primary Result	J	J	V	TR	26013C
RD-18	7/18/2011	Primary Sample	6020	Cadmium, Dissolved	0.000067	mg/L	Primary Result	J	J	V	TR	26013C

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
RD-18	7/18/2011	Primary Sample	6020	Lead	0.00033	mg/L	Primary Result	J	J	V	TR	26013C
RD-18	7/18/2011	Primary Sample	6020	Vanadium	0.0037	mg/L	Primary Result	J	J	V	TR	26013C
RD-18	7/18/2011	Primary Sample	6020	Vanadium, Dissolved	0.0033	mg/L	Primary Result	J	J	V	TR	26013C
RD-18	7/18/2011	Primary Sample	6020	Cadmium	0.000058	mg/L	Primary Result	J	J	V	TR	26013C
RD-18	7/18/2011	Primary Sample	6020	Cobalt	0.000079	mg/L	Primary Result	J	J	V	TR	26013C
RD-18	7/18/2011	Primary Sample	6020	Cobalt, Dissolved	0.000055	mg/L	Primary Result	J	J	V	TR	26013C
RD-18	7/18/2011	Primary Sample	6020	Copper	0.001	mg/L	Primary Result	J	J	V	TR	26013C
RD-18	7/18/2011	Primary Sample	6020	Nickel	0.0018	mg/L	Primary Result	J	J	V	TR	26013C
RD-18	7/18/2011	Primary Sample	6020	Nickel, Dissolved	0.0013	mg/L	Primary Result	J	J	V	TR	26013C
RD-18	7/18/2011	Primary Sample	6020	Thallium	0.000024	mg/L	Primary Result	JB	U	V	B	26013C
RD-18	7/18/2011	Primary Sample	6020	Thallium, Dissolved	0.000026	mg/L	Primary Result	J	J	V	TR	26013C
RD-18	7/18/2011	Primary Sample	8260B	Acetone	10	µg/L	Primary Result	J	UJ	V	B, L, S, T	26013C
RD-18	7/18/2011	Primary Sample	901.1	Cesium-137, Particulate	1.072	pCi/L	Primary Result	J	J	V	TR	26136A
RD-18	7/18/2011	Primary Sample	900.0	Gross Beta, Dissolved	4.193	pCi/L	Primary Result	J	J	V	TR	26136A
RD-18	7/18/2011	Primary Sample	908.0	Uranium-235, Dissolved	0.256	pCi/L	Primary Result	J	J	V	TR, *VIII	26136A
RD-18	7/18/2011	Primary Sample	908.0	Uranium-233/234, Dissolved	3.38	pCi/L	Primary Result		J	V	*VIII	26136A
RD-18	7/18/2011	Primary Sample	908.0	Uranium, Dissolved	2.321	pCi/L	Primary Result		J	V	*VIII	26136A
RD-19	7/18/2011	Primary Sample	6020	Arsenic	0.0003	mg/L	Primary Result	J	J	V	TR	26013C
RD-19	7/18/2011	Primary Sample	6020	Cadmium	0.000042	mg/L	Primary Result	J	J	V	TR	26013C
RD-19	7/18/2011	Primary Sample	6020	Cobalt	0.00017	mg/L	Primary Result	J	J	V	TR	26013C
RD-19	7/18/2011	Primary Sample	6020	Cobalt, Dissolved	0.00014	mg/L	Primary Result	J	J	V	TR	26013C
RD-19	7/18/2011	Primary Sample	6020	Nickel, Dissolved	0.0018	mg/L	Primary Result	J	J	V	TR	26013C
RD-19	7/18/2011	Primary Sample	6020	Thallium, Dissolved	0.00002	mg/L	Primary Result	J	J	V	TR	26013C
RD-19	7/18/2011	Primary Sample	8260B	1,1,1-Trichloroethane	0.16	µg/L	Primary Result	U	UJ	V	S	26013C
RD-19	7/18/2011	Primary Sample	300.0	Fluoride	0.4	mg/L	Primary Result	J	J	V	TR	26013C
RD-19	7/18/2011	Primary Sample	6020	Arsenic, Dissolved	0.00036	mg/L	Primary Result	J	J	V	TR	26013C
RD-19	7/18/2011	Primary Sample	6020	Cadmium, Dissolved	0.00004	mg/L	Primary Result	J	J	V	TR	26013C
RD-19	7/18/2011	Primary Sample	6020	Vanadium	0.0012	mg/L	Primary Result	J	J	V	TR	26013C
RD-19	7/18/2011	Primary Sample	6020	Vanadium, Dissolved	0.0012	mg/L	Primary Result	J	J	V	TR	26013C
RD-19	7/18/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	0.42	µg/L	Primary Result	U	UJ	V	S	26013C
RD-19	7/18/2011	Primary Sample	8260B	1,1,2-Trichloroethane	0.27	µg/L	Primary Result	U	UJ	V	S	26013C
RD-19	7/18/2011	Primary Sample	8260B	1,1-Dichloroethane	0.22	µg/L	Primary Result	U	UJ	V	S	26013C
RD-19	7/18/2011	Primary Sample	8260B	Acetone	10	µg/L	Primary Result	JB	UJ	V	B, S, T	26013C
RD-19	7/18/2011	Primary Sample	8260B	Benzene	0.16	µg/L	Primary Result	U	UJ	V	S	26013C
RD-19	7/18/2011	Primary Sample	8260B	1,1-Dichloroethene	0.23	µg/L	Primary Result	U	UJ	V	S	26013C
RD-19	7/18/2011	Primary Sample	8260B	1,2-Dichloroethane	0.13	µg/L	Primary Result	U	UJ	V	S	26013C
RD-19	7/18/2011	Primary Sample	8260B	Carbon Tetrachloride	0.19	µg/L	Primary Result	U	UJ	V	S	26013C
RD-19	7/18/2011	Primary Sample	8260B	Chloroform	0.16	µg/L	Primary Result	U	UJ	V	S	26013C
RD-19	7/18/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	0.15	µg/L	Primary Result	U	UJ	V	S	26013C
RD-19	7/18/2011	Primary Sample	8260B	Methyl ethyl ketone	2	µg/L	Primary Result	U	UJ	V	S	26013C
RD-19	7/18/2011	Primary Sample	8260B	Methylene chloride	0.32	µg/L	Primary Result	U	UJ	V	S	26013C
RD-19	7/18/2011	Primary Sample	8260B	o-Xylene	0.19	µg/L	Primary Result	U	UJ	V	S	26013C
RD-19	7/18/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	0.15	µg/L	Primary Result	U	UJ	V	S	26013C
RD-19	7/18/2011	Primary Sample	8260B	Trichloroethene	0.16	µg/L	Primary Result	U	UJ	V	S	26013C

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
RD-19	7/18/2011	Primary Sample	8260B	Trichlorofluoromethane	0.29	µg/L	Primary Result	U	UJ	V	S	26013C
RD-19	7/18/2011	Primary Sample	8260B	Ethylbenzene	0.16	µg/L	Primary Result	U	UJ	V	S	26013C
RD-19	7/18/2011	Primary Sample	8260B	m-Xylene & p-Xylene	0.34	µg/L	Primary Result	U	UJ	V	S	26013C
RD-19	7/18/2011	Primary Sample	8260B	Tetrachloroethene	0.2	µg/L	Primary Result	U	UJ	V	S	26013C
RD-19	7/18/2011	Primary Sample	8260B	Toluene	0.17	µg/L	Primary Result	U	UJ	V	S	26013C
RD-19	7/18/2011	Primary Sample	8260B	Vinyl chloride	0.1	µg/L	Primary Result	U	UJ	V	S	26013C
RD-19	7/18/2011	Primary Sample	900.0	Gross Alpha, Dissolved	27.406	pCi/L	Primary Result		J	V	*XI	26136A
RD-19	7/18/2011	Primary Sample	908.0	Uranium-233/234, Dissolved	14.16	pCi/L	Primary Result		J	V	*VIII	26136A
RD-19	7/18/2011	Primary Sample	908.0	Uranium-235, Dissolved	0.82	pCi/L	Primary Result		J	V	*VIII	26136A
RD-19	7/18/2011	Primary Sample	908.0	Uranium, Dissolved	12.71	pCi/L	Primary Result		J	V	*VIII	26136A
RD-19	7/18/2011	Split Sample	908.0	Uranium-235, Dissolved	0.66	pCi/L	Primary Result	J	J	V	TR	26136I
RD-19	7/18/2011	Split Sample	300.0	Fluoride	0.49	mg/L	Primary Result	J	J	V	TR	25976D
RD-19	7/18/2011	Split Sample	900.0	Gross Alpha, Dissolved	17.4	pCi/L	Primary Result		J	V	*XI	26136I
RD-20	7/13/2011	Primary Sample	8260B	Methylene chloride	5	µg/L	Primary Result	J	U	V	B	25950E
RD-20	7/13/2011	Primary Sample	900.0	Gross Alpha, Dissolved	6.914	pCi/L	Primary Result	J	J	V	TR	26090C
RD-20	7/13/2011	Primary Sample	908.0	Uranium-235, Dissolved	0.365	pCi/L	Primary Result	J	J	V	TR	26090C
RD-32	7/28/2011	Primary Sample	8015B	Gasoline Range Organics (C6-C12)	14	µg/L	Primary Result	J	J	V	TR	26062D
RD-32	7/28/2011	Primary Sample	8260B	Methylene chloride	5	µg/L	Primary Result	JB	U	V	B, T	26062D
RD-33A	7/21/2011	Primary Sample	6020	Antimony	0.00023	mg/L	Primary Result	J	J	V	TR	26041B
RD-33A	7/21/2011	Primary Sample	6020	Antimony, Dissolved	0.00018	mg/L	Primary Result	J	J	V	TR	26041B
RD-33A	7/21/2011	Primary Sample	6020	Arsenic	0.0011	mg/L	Primary Result	J	J	V	TR	26041B
RD-33A	7/21/2011	Primary Sample	6020	Cadmium	0.000084	mg/L	Primary Result	J	J	V	TR	26041B
RD-33A	7/21/2011	Primary Sample	6020	Arsenic, Dissolved	0.00086	mg/L	Primary Result	J	J	V	TR	26041B
RD-33A	7/21/2011	Primary Sample	6020	Lead, Dissolved	0.00051	mg/L	Primary Result	J	J	V	TR	26041B
RD-33A	7/21/2011	Primary Sample	6020	Silver	0.000021	mg/L	Primary Result	J	J	V	TR	26041B
RD-33A	7/21/2011	Primary Sample	6020	Vanadium	0.00017	mg/L	Primary Result	J	J	V	TR	26041B
RD-33A	7/21/2011	Primary Sample	8260B	1,1-Dichloroethane	0.42	µg/L	Primary Result	J	J	V	TR	26041B
RD-33A	7/21/2011	Primary Sample	6020	Cobalt	0.00014	mg/L	Primary Result	J	J	V	TR	26041B
RD-33A	7/21/2011	Primary Sample	6020	Cobalt, Dissolved	0.000055	mg/L	Primary Result	J	J	V	TR	26041B
RD-33A	7/21/2011	Primary Sample	6020	Nickel	0.0016	mg/L	Primary Result	J	J	V	TR	26041B
RD-33A	7/21/2011	Primary Sample	6020	Nickel, Dissolved	0.00098	mg/L	Primary Result	JB	U	V	B	26041B
RD-33A	7/21/2011	Primary Sample	6020	Thallium	0.000025	mg/L	Primary Result	JB	U	V	B	26041B
RD-33A	7/21/2011	Primary Sample	6020	Zinc, Dissolved	0.01	mg/L	Primary Result	J	J	V	TR	26041B
RD-33A	7/21/2011	Primary Sample	8260B	1,1-Dichloroethene	0.79	µg/L	Primary Result	J	J	V	TR	26041B
RD-33A	7/21/2011	Primary Sample	900.0	Gross Alpha, Dissolved	2.819	pCi/L	Primary Result	U	UJ	V	L	26136B
RD-33A	7/21/2011	Primary Sample	900.0	Gross alpha, Particulate	0.321	pCi/L	Primary Result	U	UJ	V	L	26136B
RD-33A	7/21/2011	Primary Sample	901.1	Potassium-40, Particulate	11	pCi/L	Primary Result	J	J	V	TR	26136B
RD-33A	7/21/2011	Primary Sample	908.0	Uranium, Dissolved	1.342	pCi/L	Primary Result		U	V	*VIII	26136B
RD-33A	7/21/2011	Primary Sample	908.0	Uranium-233/234, Dissolved	2.073	pCi/L	Primary Result		J	V	*VIII	26136B
RD-33A	7/21/2011	Primary Sample	908.0	Uranium-233/234, Particulate	0.232	pCi/L	Primary Result	J	J	V	TR	26136B
RD-33A	7/21/2011	Primary Sample	908.0	Uranium-235, Dissolved	0.089	pCi/L	Primary Result	U	UJ	V	*VIII	26136B
RD-33B	7/12/2011	Primary Sample	6020	Cobalt	0.00019	mg/L	Primary Result	J	J	V	TR	26013A
RD-33B	7/12/2011	Primary Sample	6020	Nickel	0.00082	mg/L	Primary Result	J	J	V	TR	26013A
RD-33B	7/12/2011	Primary Sample	6020	Zinc	0.013	mg/L	Primary Result	J	J	V	TR	26013A

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
RD-33B	7/12/2011	Primary Sample	6020	Cobalt, Dissolved	0.00022	mg/L	Primary Result	J	J	V	TR	26013A
RD-33B	7/12/2011	Primary Sample	6020	Nickel, Dissolved	0.00075	mg/L	Primary Result	J	J	V	TR	26013A
RD-33B	7/12/2011	Primary Sample	6020	Selenium	0.0007	mg/L	Primary Result	U	UJ	V	Q	26013A
RD-33B	7/12/2011	Primary Sample	8260B	Acetone	4.5	µg/L	Primary Result	J	J	V	TR	26013A
RD-33B	7/12/2011	Primary Sample	900.0	Gross Alpha, Dissolved	3.145	pCi/L	Primary Result	J	J	V	L, TR	26090B
RD-33B	7/12/2011	Primary Sample	900.0	Gross alpha, Particulate	0.58	pCi/L	Primary Result	J	J	V	L, TR	26090B
RD-33B	7/12/2011	Primary Sample	908.0	Uranium-233/234, Dissolved	0.456	pCi/L	Primary Result	J	U	V	B	26090B
RD-33C	7/12/2011	Primary Sample	6020	Antimony	0.00015	mg/L	Primary Result	J	J	V	TR	26013A
RD-33C	7/12/2011	Primary Sample	6020	Nickel, Dissolved	0.00043	mg/L	Primary Result	J	J	V	TR	26013A
RD-33C	7/12/2011	Primary Sample	6020	Selenium	0.0007	mg/L	Primary Result	U	UJ	V	Q	26013A
RD-33C	7/12/2011	Primary Sample	6020	Cobalt	0.00014	mg/L	Primary Result	J	J	V	TR	26013A
RD-33C	7/12/2011	Primary Sample	6020	Lead	0.0011	mg/L	Primary Result	J	J	V	TR	26013A
RD-33C	7/12/2011	Primary Sample	6020	Nickel	0.0005	mg/L	Primary Result	J	J	V	TR	26013A
RD-33C	7/12/2011	Primary Sample	908.0	Uranium-233/234, Dissolved	0.043	pCi/L	Primary Result	U	UJ	V	*VIII	26090B
RD-33C	7/12/2011	Primary Sample	900.0	Gross Alpha, Dissolved	1.225	pCi/L	Primary Result	U	UJ	V	L	26090B
RD-33C	7/12/2011	Primary Sample	900.0	Gross alpha, Particulate	0.567	pCi/L	Primary Result	J	J	V	L, TR	26090B
RD-33C	7/12/2011	Primary Sample	908.0	Uranium-235, Dissolved	0.026	pCi/L	Primary Result	U	UJ	V	*VIII	26090B
RD-33C	7/12/2011	Primary Sample	908.0	Uranium, Dissolved	0.107	pCi/L	Primary Result	U	UJ	V	*VIII	26090B
RD-34A	7/12/2011	Primary Sample	6020	Antimony, Dissolved	0.000093	mg/L	Primary Result	JB	U	V	B	26013A
RD-34A	7/12/2011	Primary Sample	6020	Antimony	0.000082	mg/L	Primary Result	J	J	V	TR	26013A
RD-34A	7/12/2011	Primary Sample	6020	Cobalt	0.00011	mg/L	Primary Result	J	J	V	TR	26013A
RD-34A	7/12/2011	Primary Sample	6020	Nickel	0.0019	mg/L	Primary Result	J	J	V	TR	26013A
RD-34A	7/12/2011	Primary Sample	6020	Thallium	0.000033	mg/L	Primary Result	JB	U	V	B	26013A
RD-34A	7/12/2011	Primary Sample	6020	Vanadium	0.00049	mg/L	Primary Result	J	J	V	TR	26013A
RD-34A	7/12/2011	Primary Sample	6020	Vanadium, Dissolved	0.00044	mg/L	Primary Result	J	J	V	TR	26013A
RD-34A	7/12/2011	Primary Sample	6020	Cadmium	0.000047	mg/L	Primary Result	J	J	V	TR	26013A
RD-34A	7/12/2011	Primary Sample	6020	Cadmium, Dissolved	0.00005	mg/L	Primary Result	J	J	V	TR	26013A
RD-34A	7/12/2011	Primary Sample	6020	Cobalt, Dissolved	0.00011	mg/L	Primary Result	J	J	V	TR	26013A
RD-34A	7/12/2011	Primary Sample	6020	Selenium	0.0034	mg/L	Primary Result	J	J	V	Q, TR	26013A
RD-34A	7/12/2011	Primary Sample	6020	Selenium, Dissolved	0.0038	mg/L	Primary Result	J	J	V	TR	26013A
RD-34A	7/12/2011	Primary Sample	6020	Thallium, Dissolved	0.000036	mg/L	Primary Result	JB	U	V	B	26013A
RD-34A	7/12/2011	Primary Sample	8260B	1,1-Dichloroethene	0.5	µg/L	Primary Result	J	J	V	TR	26013A
RD-34A	7/12/2011	Primary Sample	8260B	Acetone	2.1	µg/L	Primary Result	J	J	V	TR	26013A
RD-34A	7/12/2011	Primary Sample	8260B SIM	1,4-Dioxane	0.81	µg/L	Primary Result	J	J	V	TR	26013A
RD-34A	7/12/2011	Primary Sample	900.0	Gross Alpha, Dissolved	17.696	pCi/L	Primary Result	J	J	V	L	26090B
RD-34A	7/12/2011	Primary Sample	900.0	Gross alpha, Particulate	0.151	pCi/L	Primary Result	U	UJ	V	L	26090B
RD-34A	7/12/2011	Primary Sample	901.1	Potassium-40, Particulate	13.45	pCi/L	Primary Result	J	J	V	TR	26090B
RD-34A	7/12/2011	Primary Sample	906.0	Tritium	375.281	pCi/L	Primary Result	J	J	V	TR	26090B
RD-34A	7/12/2011	Primary Sample	908.0	Uranium-233/234, Dissolved	12.4	pCi/L	Primary Result	J	J	V	*VIII	26090B
RD-34A	7/12/2011	Primary Sample	908.0	Uranium-235, Dissolved	1.237	pCi/L	Primary Result	J	J	V	*VIII	26090B
RD-34A	7/12/2011	Primary Sample	908.0	Uranium, Dissolved	14.51	pCi/L	Primary Result	J	J	V	*VIII	26090B
RD-34C	7/12/2011	Primary Sample	300.0	Fluoride	0.42	mg/L	Primary Result	J	J	V	TR	26013A
RD-34C	7/12/2011	Primary Sample	6020	Cobalt	0.00094	mg/L	Primary Result	J	J	V	TR	26013A
RD-34C	7/12/2011	Primary Sample	6020	Nickel	0.001	mg/L	Primary Result	J	J	V	TR	26013A

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
RD-34C	7/12/2011	Primary Sample	6020	Thallium	0.000044	mg/L	Primary Result	JB	U	V	B	26013A
RD-34C	7/12/2011	Primary Sample	6020	Cadmium	0.000098	mg/L	Primary Result	J	J	V	TR	26013A
RD-34C	7/12/2011	Primary Sample	6020	Nickel, Dissolved	0.00044	mg/L	Primary Result	J	J	V	TR	26013A
RD-34C	7/12/2011	Primary Sample	6020	Selenium	0.0007	mg/L	Primary Result	U	UJ	V	Q	26013A
RD-34C	7/12/2011	Primary Sample	6020	Thallium, Dissolved	0.000042	mg/L	Primary Result	JB	U	V	B	26013A
RD-34C	7/12/2011	Primary Sample	8260B	Acetone	2.6	µg/L	Primary Result	J	J	V	TR	26013A
RD-34C	7/12/2011	Primary Sample	900.0	Gross Alpha, Dissolved	1.22	pCi/L	Primary Result	J	J	V	L, TR	26090B
RD-34C	7/12/2011	Primary Sample	900.0	Gross alpha, Particulate	0.67	pCi/L	Primary Result		J	V	L	26090B
RD-34C	7/12/2011	Primary Sample	901.1	Europium-155, Dissolved	6.689	pCi/L	Primary Result	J	J	V	TR	26090B
RD-34C	7/12/2011	Primary Sample	901.1	Potassium-40, Particulate	10.72	pCi/L	Primary Result	J	J	V	TR	26090B
RD-34C	7/12/2011	Primary Sample	908.0	Uranium-233/234, Dissolved	0.217	pCi/L	Primary Result	J	U	V	B	26090B
RD-34C	7/12/2011	Primary Sample	908.0	Uranium-233/234, Particulate	0.246	pCi/L	Primary Result	J	U	V	B	26090B
RD-35A	8/5/2011	Primary Sample	314.0	Perchlorate	0.41	µg/L	Primary Result	J	J	V	TR	26171E
RD-35A	8/5/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	110	µg/L	Primary Result		J	V	S	26171E
RD-35A	8/5/2011	Primary Sample	8260B	1,1,2-Trichloroethane	0.54	µg/L	Primary Result	U	UJ	V	S	26171E
RD-35A	8/5/2011	Primary Sample	8260B	1,1-Dichloroethane	0.44	µg/L	Primary Result	U	UJ	V	S	26171E
RD-35A	8/5/2011	Primary Sample	8260B	1,1,1-Trichloroethane	0.32	µg/L	Primary Result	U	UJ	V	S	26171E
RD-35A	8/5/2011	Primary Sample	8260B	1,1-Dichloroethene	13	µg/L	Primary Result		J	V	S	26171E
RD-35A	8/5/2011	Primary Sample	8260B	1,2-Dichloroethane	0.26	µg/L	Primary Result	U	UJ	V	S	26171E
RD-35A	8/5/2011	Primary Sample	8260B	Acetone	3.8	µg/L	Primary Result	U	UJ	V	S	26171E
RD-35A	8/5/2011	Primary Sample	8260B	Benzene	0.32	µg/L	Primary Result	U	UJ	V	S	26171E
RD-35A	8/5/2011	Primary Sample	8260B	Carbon Tetrachloride	0.38	µg/L	Primary Result	U	UJ	V	S	26171E
RD-35A	8/5/2011	Primary Sample	8260B	Ethylbenzene	0.32	µg/L	Primary Result	U	UJ	V	S	26171E
RD-35A	8/5/2011	Primary Sample	8260B	m-Xylene & p-Xylene	0.68	µg/L	Primary Result	U	UJ	V	S	26171E
RD-35A	8/5/2011	Primary Sample	8260B	Tetrachloroethene	3.8	µg/L	Primary Result		J	V	S	26171E
RD-35A	8/5/2011	Primary Sample	8260B	Toluene	0.34	µg/L	Primary Result	U	UJ	V	S	26171E
RD-35A	8/5/2011	Primary Sample	8260B	Chloroform	0.32	µg/L	Primary Result	U	UJ	V	S	26171E
RD-35A	8/5/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	5.4	µg/L	Primary Result		J	V	S	26171E
RD-35A	8/5/2011	Primary Sample	8260B	Methyl ethyl ketone	4	µg/L	Primary Result	U	UJ	V	S	26171E
RD-35A	8/5/2011	Primary Sample	8260B	Methylene chloride	10	µg/L	Primary Result	JB	UJ	V	B, S, T	26171E
RD-35A	8/5/2011	Primary Sample	8260B	o-Xylene	0.38	µg/L	Primary Result	U	UJ	V	S	26171E
RD-35A	8/5/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	0.3	µg/L	Primary Result	U	UJ	V	S	26171E
RD-35A	8/5/2011	Primary Sample	8260B	Trichloroethene	270	µg/L	Primary Result		J	V	S	26171E
RD-35A	8/5/2011	Primary Sample	8260B	Trichlorofluoromethane	0.58	µg/L	Primary Result	U	UJ	V	S	26171E
RD-35A	8/5/2011	Primary Sample	8260B	Vinyl chloride	0.2	µg/L	Primary Result	U	UJ	V	S	26171E
RD-35B	8/5/2011	Primary Sample	8260B	1,1-Dichloroethane	2.2	µg/L	Primary Result	U	UJ	V	S	26171E
RD-35B	8/5/2011	Primary Sample	8260B	1,1-Dichloroethene	63	µg/L	Primary Result		J	V	S	26171E
RD-35B	8/5/2011	Primary Sample	8260B	1,2-Dichloroethane	1.3	µg/L	Primary Result	U	UJ	V	S	26171E
RD-35B	8/5/2011	Primary Sample	8260B	Acetone	54	µg/L	Primary Result	J	J	V	S, TR	26171E
RD-35B	8/5/2011	Primary Sample	8260B	Benzene	1.6	µg/L	Primary Result	U	UJ	V	S	26171E
RD-35B	8/5/2011	Primary Sample	8260B	Carbon Tetrachloride	1.9	µg/L	Primary Result	U	UJ	V	S	26171E
RD-35B	8/5/2011	Primary Sample	8260B	1,1,1-Trichloroethane	1.6	µg/L	Primary Result	U	UJ	V	S	26171E
RD-35B	8/5/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	4.2	µg/L	Primary Result	U	UJ	V	S	26171E
RD-35B	8/5/2011	Primary Sample	8260B	1,1,2-Trichloroethane	2.7	µg/L	Primary Result	U	UJ	V	S	26171E

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab	Validator	Validation Level	Reason Code	Validation Report
								Qualifier Code	Qualifier Code			
RD-35B	8/5/2011	Primary Sample	8260B	Chloroform	1.6	µg/L	Primary Result	U	UJ	V	S	26171E
RD-35B	8/5/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	1300	µg/L	Primary Result		J	V	S	26171E
RD-35B	8/5/2011	Primary Sample	8260B	Methyl ethyl ketone	20	µg/L	Primary Result	U	UJ	V	S	26171E
RD-35B	8/5/2011	Primary Sample	8260B	Methylene chloride	50	µg/L	Primary Result	JB	UJ	V	B, S, T	26171E
RD-35B	8/5/2011	Primary Sample	8260B	o-Xylene	1.9	µg/L	Primary Result	U	UJ	V	S	26171E
RD-35B	8/5/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	11	µg/L	Primary Result		J	V	S	26171E
RD-35B	8/5/2011	Primary Sample	8260B	Trichloroethene	3.2	µg/L	Primary Result	J	J	V	S, TR	26171E
RD-35B	8/5/2011	Primary Sample	8260B	Ethylbenzene	1.6	µg/L	Primary Result	U	UJ	V	S	26171E
RD-35B	8/5/2011	Primary Sample	8260B	m-Xylene & p-Xylene	3.4	µg/L	Primary Result	U	UJ	V	S	26171E
RD-35B	8/5/2011	Primary Sample	8260B	Tetrachloroethene	2	µg/L	Primary Result	U	UJ	V	S	26171E
RD-35B	8/5/2011	Primary Sample	8260B	Toluene	1.7	µg/L	Primary Result	U	UJ	V	S	26171E
RD-35B	8/5/2011	Primary Sample	8260B	Trichlorofluoromethane	2.9	µg/L	Primary Result	U	UJ	V	S	26171E
RD-35B	8/5/2011	Primary Sample	8260B	Vinyl chloride	4	µg/L	Primary Result	J	J	V	S, TR	26171E
RD-36B	8/4/2011	Primary Sample	300.0	Fluoride	0.12	mg/L	Primary Result	J	J	V	TR	26097G
RD-36B	8/4/2011	Primary Sample	8015B	Gasoline Range Organics (C6-C12)	16	µg/L	Primary Result	J	J	V	S, TR	26097G
RD-36B	8/4/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	1.8	µg/L	Primary Result	J	J	V	TR	26097G
RD-36B	8/4/2011	Primary Sample	8260B	Methylene chloride	5	µg/L	Primary Result	JB	U	V	B, T	26097G
RD-36B	8/4/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26090L
RD-36C	8/4/2011	Primary Sample	300.0	Fluoride	0.22	mg/L	Primary Result	J	J	V	TR	26097G
RD-36C	8/4/2011	Primary Sample	350.1	Ammonia-N	0.23	mg/L	Primary Result	J	J	V	TR	26097G
RD-36C	8/4/2011	Primary Sample	8015B	Gasoline Range Organics (C6-C12)	53	µg/L	Primary Result	J	J	V	TR	26097G
RD-36C	8/4/2011	Primary Sample	8260B	1,1-Dichloroethane	0.35	µg/L	Primary Result	J	J	V	TR	26097G
RD-36C	8/4/2011	Primary Sample	8260B	Methylene chloride	5	µg/L	Primary Result	JB	U	V	B, T	26097G
RD-36C	8/4/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26090L
RD-36C	8/4/2011	Primary Sample	8260B	Vinyl chloride	0.41	µg/L	Primary Result	J	J	V	TR	26097G
RD-36C	8/4/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	4	µg/L	Primary Result	J	J	V	TR	26097G
RD-36D	8/4/2011	Primary Sample	300.0	Fluoride	0.098	mg/L	Primary Result	J	J	V	TR	26097G
RD-36D	8/4/2011	Primary Sample	8015B	Gasoline Range Organics (C6-C12)	22	µg/L	Primary Result	J	J	V	TR	26097G
RD-36D	8/4/2011	Primary Sample	8260B	Methylene chloride	5	µg/L	Primary Result	JB	U	V	B, T	26097G
RD-36D	8/4/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	1.7	µg/L	Primary Result	J	J	V	TR	26097G
RD-36D	8/4/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26090L
RD-37	8/3/2011	Primary Sample	8015B	Gasoline Range Organics (C6-C12)	100	µg/L	Primary Result	J	UJ	V	Q, T	26097E
RD-37	8/3/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	0.35	µg/L	Primary Result	J	J	V	TR	26097E
RD-37	8/3/2011	Primary Sample	8260B	Methylene chloride	5	µg/L	Primary Result	JB	U	V	B, T	26097E
RD-37	8/3/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26090K
RD-38B	7/28/2011	Field Duplicate	350.1	Ammonia-N	0.098	mg/L	Primary Result	JB	U	V	B	26062D
RD-38B	7/28/2011	Field Duplicate	8015B	Diesel Range Organics (C8-C30)	0.095	mg/L	Primary Result	J	J	V	TR	26062D
RD-38B	7/28/2011	Field Duplicate	8015B	Gasoline Range Organics (C6-C12)	29	µg/L	Primary Result	J	J	V	TR	26062D
RD-38B	7/28/2011	Field Duplicate	300.0	Fluoride	0.3	mg/L	Primary Result	J	J	V	TR	26062D
RD-38B	7/28/2011	Field Duplicate	8015B	Diesel Range Organics (C12-C14)	0.082	mg/L	Primary Result	J	J	V	TR	26062D
RD-38B	7/28/2011	Field Duplicate	8260B	Methylene chloride	5	µg/L	Primary Result	JB	U	V	B, T	26062D
RD-38B	7/28/2011	Field Duplicate	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26041E
RD-38B	7/28/2011	Primary Sample	300.0	Fluoride	0.3	mg/L	Primary Result	J	J	V	TR	26062D
RD-38B	7/28/2011	Primary Sample	8015B	Diesel Range Organics (C12-C14)	0.083	mg/L	Primary Result	J	J	V	TR	26062D

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SUMMARY OF THIRD QUARTER 2011 DATA QUALIFICATION
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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
RD-38B	7/28/2011	Primary Sample	350.1	Ammonia-N	0.11	mg/L	Primary Result	JB	U	V	B	26062D
RD-38B	7/28/2011	Primary Sample	8015B	Diesel Range Organics (C8-C30)	0.1	mg/L	Primary Result	J	J	V	TR	26062D
RD-38B	7/28/2011	Primary Sample	8015B	Gasoline Range Organics (C6-C12)	26	µg/L	Primary Result	J	J	V	TR	26062D
RD-38B	7/28/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	0.61	µg/L	Primary Result	J	J	V	TR	26062D
RD-38B	7/28/2011	Primary Sample	8260B	Methylene chloride	5	µg/L	Primary Result	JB	U	V	B, T	26062D
RD-38B	7/28/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26041E
RD-39B	8/3/2011	Primary Sample	300.0	Fluoride	0.13	mg/L	Primary Result	J	J	V	TR	26097E
RD-39B	8/3/2011	Primary Sample	8260B	Acetone	10	µg/L	Primary Result	JB	U	V	B, T	26097E
RD-39B	8/3/2011	Primary Sample	8260B	Methylene chloride	5	µg/L	Primary Result	JB	U	V	B, T	26097E
RD-39B	8/3/2011	Primary Sample	8260B	Trichloroethene	0.39	µg/L	Primary Result	J	J	V	TR	26097E
RD-39B	8/3/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26090K
RD-41B	8/2/2011	Field Duplicate	8260B	Methylene chloride	25	µg/L	Primary Result	JB	U	V	B, T	26050F
RD-41B	8/2/2011	Field Duplicate	8260B SIM	1,4-Dioxane	0.81	µg/L	Primary Result	J	J	V	TR	26050F
RD-41B	8/2/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	1200	µg/L	Primary Result		J	V	S	26050F
RD-41B	8/2/2011	Primary Sample	8260B	Methylene chloride	25	µg/L	Primary Result	JB	U	V	B, T	26050F
RD-41B	8/2/2011	Primary Sample	8260B SIM	1,4-Dioxane	1.3	µg/L	Primary Result	J	J	V	TR	26050F
RD-42	6/30/2011	Primary Sample	8260B	1,1-Dichloroethene	0.53	µg/L	Primary Result	J	J	V	TR	25863A
RD-42	6/30/2011	Primary Sample	8260B SIM	1,4-Dioxane	2	µg/L	Primary Result	J	U	V	T	25863A
RD-43A	8/5/2011	Primary Sample	350.1	Ammonia-N	0.068	mg/L	Primary Result	J	J	V	TR	26171E
RD-43A	8/5/2011	Primary Sample	8260B	1,1,1-Trichloroethane	0.16	µg/L	Primary Result	U	UJ	V	S	26171E
RD-43A	8/5/2011	Primary Sample	300.0	Fluoride	0.37	mg/L	Primary Result	J	J	V	TR	26171E
RD-43A	8/5/2011	Primary Sample	300.0	Nitrate-NO3	0.35	mg/L	Primary Result	J	J	V	TR	26171E
RD-43A	8/5/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	0.42	µg/L	Primary Result	U	UJ	V	S	26171E
RD-43A	8/5/2011	Primary Sample	8260B	1,1,2-Trichloroethane	0.27	µg/L	Primary Result	U	UJ	V	S	26171E
RD-43A	8/5/2011	Primary Sample	8260B	1,1-Dichloroethane	0.22	µg/L	Primary Result	U	UJ	V	S	26171E
RD-43A	8/5/2011	Primary Sample	8260B	1,1-Dichloroethene	0.23	µg/L	Primary Result	U	UJ	V	S	26171E
RD-43A	8/5/2011	Primary Sample	8260B	1,2-Dichloroethane	0.13	µg/L	Primary Result	U	UJ	V	S	26171E
RD-43A	8/5/2011	Primary Sample	8260B	Carbon Tetrachloride	0.19	µg/L	Primary Result	U	UJ	V	S	26171E
RD-43A	8/5/2011	Primary Sample	8260B	Chloroform	0.16	µg/L	Primary Result	U	UJ	V	S	26171E
RD-43A	8/5/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	0.15	µg/L	Primary Result	U	UJ	V	S	26171E

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab	Validator	Validation Level	Reason Code	Validation Report
								Qualifier Code	Qualifier Code			
RD-43A	8/5/2011	Primary Sample	8260B	m-Xylene & p-Xylene	0.34	µg/L	Primary Result	U	UJ	V	S	26171E
RD-43A	8/5/2011	Primary Sample	8260B	Methyl ethyl ketone	2	µg/L	Primary Result	U	UJ	V	S	26171E
RD-43A	8/5/2011	Primary Sample	8260B	Methylene chloride	0.32	µg/L	Primary Result	U	UJ	V	S	26171E
RD-43A	8/5/2011	Primary Sample	8260B	Acetone	1.9	µg/L	Primary Result	U	UJ	V	S	26171E
RD-43A	8/5/2011	Primary Sample	8260B	Benzene	0.16	µg/L	Primary Result	U	UJ	V	S	26171E
RD-43A	8/5/2011	Primary Sample	8260B	Ethylbenzene	0.16	µg/L	Primary Result	U	UJ	V	S	26171E
RD-43A	8/5/2011	Primary Sample	8260B	Isopropanol	13	µg/L	Primary Result	U	UJ	V	S	26171E
RD-43A	8/5/2011	Primary Sample	8260B	o-Xylene	0.19	µg/L	Primary Result	U	UJ	V	S	26171E
RD-43A	8/5/2011	Primary Sample	8260B	Tetrachloroethene	0.2	µg/L	Primary Result	U	UJ	V	S	26171E
RD-43A	8/5/2011	Primary Sample	8260B	Toluene	0.17	µg/L	Primary Result	U	UJ	V	S	26171E
RD-43A	8/5/2011	Primary Sample	8260B	Trichlorofluoromethane	0.29	µg/L	Primary Result	U	UJ	V	S	26171E
RD-43A	8/5/2011	Primary Sample	8260B	Vinyl chloride	0.1	µg/L	Primary Result	U	UJ	V	S	26171E
RD-43A	8/5/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	1.8	µg/L	Primary Result	J	J	V	TR	26171E
RD-43A	8/5/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	0.15	µg/L	Primary Result	U	UJ	V	S	26171E
RD-43A	8/5/2011	Primary Sample	8260B	Trichloroethene	0.16	µg/L	Primary Result	U	UJ	V	S	26171E
RD-43A	8/5/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26136D
RD-43B	8/4/2011	Primary Sample	350.1	Ammonia-N	0.064	mg/L	Primary Result	J	J	V	TR	26097G
RD-43B	8/4/2011	Primary Sample	8015B	Diesel Range Organics (C12-C14)	0.034	mg/L	Primary Result	J	J	V	TR	26097G
RD-43B	8/4/2011	Primary Sample	300.0	Fluoride	0.34	mg/L	Primary Result	J	J	V	TR	26097G
RD-43B	8/4/2011	Primary Sample	8260B	Acetone	2.6	µg/L	Primary Result	J	J	V	TR	26097G
RD-43B	8/4/2011	Primary Sample	8260B	Methylene chloride	5	µg/L	Primary Result	JB	U	V	B, T	26097G
RD-43B	8/4/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	1.9	µg/L	Primary Result	J	J	V	TR	26097G
RD-43B	8/4/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26090L
RD-43C	8/4/2011	Field Duplicate	300.0	Fluoride	0.32	mg/L	Primary Result	J	J	V	TR	26097G
RD-43C	8/4/2011	Field Duplicate	350.1	Ammonia-N	0.057	mg/L	Primary Result	J	J	V	TR	26097G
RD-43C	8/4/2011	Field Duplicate	8260B	Methylene chloride	5	µg/L	Primary Result	JB	U	V	B, T	26097G
RD-43C	8/4/2011	Field Duplicate	8270C	bis(2-Ethylhexyl) phthalate	1.7	µg/L	Primary Result	J	J	V	TR	26097G
RD-43C	8/4/2011	Field Duplicate	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26090L
RD-43C	8/4/2011	Primary Sample	300.0	Fluoride	0.32	mg/L	Primary Result	J	J	V	TR	26097G
RD-43C	8/4/2011	Primary Sample	350.1	Ammonia-N	0.058	mg/L	Primary Result	J	J	V	TR	26097G
RD-43C	8/4/2011	Primary Sample	8260B	Methylene chloride	5	µg/L	Primary Result	JB	U	V	B, T	26097G
RD-43C	8/4/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26090L
RD-43C	8/4/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	1.8	µg/L	Primary Result	J	J	V	TR	26097G
RD-44	8/8/2011	Primary Sample	8260B	Acetone	10	µg/L	Primary Result	J	U	V	L, T	26136E
RD-44	8/8/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26136F
RD-45A	8/10/2011	Primary Sample	1625M	n-Nitrosodimethylamine	0.11	µg/L	Primary Result		J	V	*XVI	26171J
RD-45A	8/10/2011	Field Duplicate	1625M	n-Nitrosodimethylamine	0.16	µg/L	Primary Result		J	V	*XVI	26171K
RD-45A	8/10/2011	Primary Sample	300.0	Fluoride	0.25	mg/L	Primary Result	JB	U	V	B	26171J
RD-45A	8/10/2011	Primary Sample	300.0	Nitrate-NO3	0.23	mg/L	Primary Result	J	J	V	TR	26171J
RD-45A	8/10/2011	Primary Sample	8260B	1,1-Dichloroethane	0.43	µg/L	Primary Result	J	J	V	TR	26171J
RD-45A	8/10/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	9.5	µg/L	Primary Result	JB	U	V	B	26171J
RD-45A	8/10/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26090M
RD-45A	8/10/2011	Primary Sample	9040B	pH	7.19	pH Units	Primary Result	HTV	J	V	H	26171J
RD-45B	8/10/2011	Primary Sample	350.1	Ammonia-N	0.069	mg/L	Primary Result	J	J	V	TR	26171J

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
RD-45B	8/10/2011	Primary Sample	300.0	Fluoride	0.25	mg/L	Primary Result	JB	U	V	B	26171J
RD-45B	8/10/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26090M
RD-45B	8/10/2011	Primary Sample	9040B	pH	7.56	pH Units	Primary Result	HTV	J	V	H	26171J
RD-45B	8/10/2011	Primary Sample	8260B SIM	1,4-Dioxane	0.98	µg/L	Primary Result	J	J	V	TR	26171J
RD-45B	8/10/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	9.7	µg/L	Primary Result	JB	U	V	B	26171J
RD-45C	8/10/2011	Primary Sample	350.1	Ammonia-N	0.06	mg/L	Primary Result	J	J	V	TR	26171J
RD-45C	8/10/2011	Primary Sample	300.0	Fluoride	0.29	mg/L	Primary Result	JB	U	V	B	26171J
RD-45C	8/10/2011	Primary Sample	8015B	Diesel Range Organics (C21-C30)	0.058	mg/L	Primary Result	J	J	V	TR	26171J
RD-45C	8/10/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	9.5	µg/L	Primary Result	JB	U	V	B	26171J
RD-45C	8/10/2011	Primary Sample	8270C	Diethyl phthalate	0.38	µg/L	Primary Result	J	J	V	TR	26171J
RD-45C	8/10/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26090M
RD-45C	8/10/2011	Primary Sample	9040B	pH	7.92	pH Units	Primary Result	HTV	J	V	H	26171J
RD-46A	8/8/2011	Primary Sample	300.0	Fluoride	0.42	mg/L	Primary Result	JB	J	V	TR	26136E
RD-46A	8/8/2011	Primary Sample	300.0	Nitrate-NO3	0.55	mg/L	Primary Result	J	J	V	TR	26136E
RD-46A	8/8/2011	Primary Sample	1625M	n-Nitrosodimethylamine	0.005	µg/L	Primary Result	UHTV	UJ	V	H	26136E
RD-46A	8/8/2011	Primary Sample	350.1	Ammonia-N	0.075	mg/L	Primary Result	J	J	V	TR	26136E
RD-46A	8/8/2011	Primary Sample	8260B SIM	1,4-Dioxane	1.2	µg/L	Primary Result	J	J	V	TR	26136E
RD-46A	8/8/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	9.8	µg/L	Primary Result	JB	U	V	B	26136E
RD-46A	8/8/2011	Primary Sample	8270C	Diethyl phthalate	1.3	µg/L	Primary Result	J	J	V	TR	26136E
RD-46A	8/8/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26136F
RD-46A	8/8/2011	Primary Sample	9040B	pH	7.05	pH Units	Primary Result	HTV	J	V	H	26136E
RD-46B	8/8/2011	Primary Sample	300.0	Fluoride	0.21	mg/L	Primary Result	JB	U	V	B	26136E
RD-46B	8/8/2011	Primary Sample	8260B	Acetone	10	µg/L	Primary Result	J	U	V	L, T	26136E
RD-46B	8/8/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	9.5	µg/L	Primary Result	JB	U	V	B	26136E
RD-46B	8/8/2011	Primary Sample	8270C	Di-n-octyl phthalate	2.3	µg/L	Primary Result	J	J	V	TR	26136E
RD-46B	8/8/2011	Primary Sample	8270C	Diethyl phthalate	1.7	µg/L	Primary Result	J	J	V	TR	26136E
RD-46B	8/8/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26136F
RD-46B	8/8/2011	Primary Sample	9040B	pH	8.92	pH Units	Primary Result	HTV	J	V	H	26136E
RD-48A	8/1/2011	Primary Sample	300.0	Fluoride	0.16	mg/L	Primary Result	J	J	V	TR	26136C
RD-48A	8/1/2011	Primary Sample	8015B	Diesel Range Organics (C21-C30)	0.048	mg/L	Primary Result	J	J	V	TR	26136C
RD-48A	8/1/2011	Primary Sample	350.1	Ammonia-N	0.32	mg/L	Primary Result	JB	J	V	TR	26136C
RD-48A	8/1/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	11	µg/L	Primary Result	JB	U	V	B	26136C
RD-48A	8/1/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26097C
RD-48B	8/1/2011	Primary Sample	350.1	Ammonia-N	0.19	mg/L	Primary Result	JB	U	V	B	26136C
RD-48B	8/1/2011	Primary Sample	300.0	Fluoride	0.34	mg/L	Primary Result	J	J	V	TR	26136C
RD-48B	8/1/2011	Primary Sample	8260B	Acetone	6.4	µg/L	Primary Result	J	J	V	L, S, TR	26136C
RD-48B	8/1/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	11	µg/L	Primary Result	JB	U	V	B	26136C
RD-48B	8/1/2011	Primary Sample	8270C	Diethyl phthalate	0.5	µg/L	Primary Result	J	J	V	TR	26136C
RD-48B	8/1/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26097C
RD-48B	8/1/2011	Primary Sample	DV-WC-0077	1,1-Dimethylhydrazine	7.7	µg/L	Primary Result	J	J	V	TR	26136C
RD-48C	8/1/2011	Primary Sample	300.0	Fluoride	0.28	mg/L	Primary Result	J	J	V	TR	26136C
RD-48C	8/1/2011	Primary Sample	350.1	Ammonia-N	0.14	mg/L	Primary Result	JB	U	V	B	26136C
RD-48C	8/1/2011	Primary Sample	8015B	Diesel Range Organics (C21-C30)	0.043	mg/L	Primary Result	J	J	V	TR	26136C
RD-48C	8/1/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	9.6	µg/L	Primary Result	JB	U	V	B	26136C

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
RD-48C	8/1/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26097C
RD-49A	7/13/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	1.4	µg/L	Primary Result	J	J	V	TR	25950E
RD-49B	7/14/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	9.5	µg/L	Primary Result	JB	U	V	B	25989A
RD-49C	8/5/2011	Primary Sample	300.0	Fluoride	0.19	mg/L	Primary Result	J	J	V	TR	26171E
RD-49C	8/5/2011	Primary Sample	8260B	1,1,2-Trichloroethane	0.27	µg/L	Primary Result	U	UJ	V	S	26171E
RD-49C	8/5/2011	Primary Sample	8260B	1,1-Dichloroethane	0.22	µg/L	Primary Result	U	UJ	V	S	26171E
RD-49C	8/5/2011	Primary Sample	8260B	1,1-Dichloroethene	0.23	µg/L	Primary Result	U	UJ	V	S	26171E
RD-49C	8/5/2011	Primary Sample	8260B	Acetone	1.9	µg/L	Primary Result	U	UJ	V	S	26171E
RD-49C	8/5/2011	Primary Sample	8260B	Benzene	0.16	µg/L	Primary Result	U	UJ	V	S	26171E
RD-49C	8/5/2011	Primary Sample	8260B	Carbon Tetrachloride	0.19	µg/L	Primary Result	U	UJ	V	S	26171E
RD-49C	8/5/2011	Primary Sample	8260B	Ethylbenzene	0.16	µg/L	Primary Result	U	UJ	V	S	26171E
RD-49C	8/5/2011	Primary Sample	8260B	m-Xylene & p-Xylene	0.34	µg/L	Primary Result	U	UJ	V	S	26171E
RD-49C	8/5/2011	Primary Sample	8260B	Methyl ethyl ketone	2	µg/L	Primary Result	U	UJ	V	S	26171E
RD-49C	8/5/2011	Primary Sample	8260B	1,1,1-Trichloroethane	0.16	µg/L	Primary Result	U	UJ	V	S	26171E
RD-49C	8/5/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	0.42	µg/L	Primary Result	U	UJ	V	S	26171E
RD-49C	8/5/2011	Primary Sample	8260B	1,2-Dichloroethane	0.13	µg/L	Primary Result	U	UJ	V	S	26171E
RD-49C	8/5/2011	Primary Sample	8260B	Chloroform	0.16	µg/L	Primary Result	U	UJ	V	S	26171E
RD-49C	8/5/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	58	µg/L	Primary Result		J	V	S	26171E
RD-49C	8/5/2011	Primary Sample	8260B	Methylene chloride	0.32	µg/L	Primary Result	U	UJ	V	S	26171E
RD-49C	8/5/2011	Primary Sample	8260B	o-Xylene	0.19	µg/L	Primary Result	U	UJ	V	S	26171E
RD-49C	8/5/2011	Primary Sample	8260B	Tetrachloroethene	0.2	µg/L	Primary Result	U	UJ	V	S	26171E
RD-49C	8/5/2011	Primary Sample	8260B	Trichloroethene	1.8	µg/L	Primary Result		J	V	S	26171E
RD-49C	8/5/2011	Primary Sample	8260B	Trichlorofluoromethane	0.29	µg/L	Primary Result	U	UJ	V	S	26171E
RD-49C	8/5/2011	Primary Sample	8260B	Vinyl chloride	1.1	µg/L	Primary Result		J	V	S	26171E
RD-49C	8/5/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26136D
RD-49C	8/5/2011	Primary Sample	8260B	Toluene	0.17	µg/L	Primary Result	U	UJ	V	S	26171E
RD-49C	8/5/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	6.1	µg/L	Primary Result		J	V	S	26171E
RD-49C	8/5/2011	Primary Sample	8260B SIM	1,4-Dioxane	1.2	µg/L	Primary Result	J	J	V	TR	26171E
RD-49C	8/5/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	1.7	µg/L	Primary Result	J	J	V	TR	26171E
RD-50	7/21/2011	Primary Sample	314.0	Perchlorate	0.81	µg/L	Primary Result	J	J	V	TR	26041B
RD-50	7/21/2011	Primary Sample	6020	Antimony	0.00039	mg/L	Primary Result	J	J	V	TR	26041B
RD-50	7/21/2011	Primary Sample	6020	Antimony, Dissolved	0.00048	mg/L	Primary Result	J	J	V	TR	26041B
RD-50	7/21/2011	Primary Sample	6020	Cobalt	0.00046	mg/L	Primary Result	J	J	V	TR	26041B
RD-50	7/21/2011	Primary Sample	6020	Cobalt, Dissolved	0.00047	mg/L	Primary Result	J	J	V	TR	26041B
RD-50	7/21/2011	Primary Sample	6020	Lead	0.00089	mg/L	Primary Result	J	J	V	TR	26041B
RD-50	7/21/2011	Primary Sample	6020	Lead, Dissolved	0.0012	mg/L	Primary Result	J	J	V	TR	26041B
RD-50	7/21/2011	Primary Sample	6020	Nickel	0.00064	mg/L	Primary Result	J	J	V	TR	26041B
RD-50	7/21/2011	Primary Sample	6020	Nickel, Dissolved	0.00073	mg/L	Primary Result	JB	U	V	B	26041B
RD-50	7/21/2011	Primary Sample	6020	Silver, Dissolved	0.000026	mg/L	Primary Result	J	J	V	TR	26041B
RD-50	7/21/2011	Primary Sample	6020	Thallium	0.000054	mg/L	Primary Result	JB	U	V	B	26041B
RD-50	7/21/2011	Primary Sample	6020	Thallium, Dissolved	0.000097	mg/L	Primary Result	JB	U	V	B	26041B
RD-50	7/21/2011	Primary Sample	6020	Vanadium, Dissolved	0.0031	mg/L	Primary Result	J	J	V	TR	26041B
RD-50	7/21/2011	Primary Sample	8260B	1,1,2-Trichloroethane	0.27	µg/L	Primary Result	U	UJ	V	S	26041B
RD-50	7/21/2011	Primary Sample	8260B	1,1-Dichloroethane	0.22	µg/L	Primary Result	U	UJ	V	S	26041B

TABLE B-3
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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
RD-50	7/21/2011	Primary Sample	8260B	1,1-Dichloroethene	0.23	µg/L	Primary Result	U	UJ	V	S	26041B
RD-50	7/21/2011	Primary Sample	6020	Vanadium	0.003	mg/L	Primary Result	J	J	V	TR	26041B
RD-50	7/21/2011	Primary Sample	6860	Perchlorate	0.41	µg/L	Primary Result		J	V	Q	26068A
RD-50	7/21/2011	Primary Sample	8260B	1,1,1-Trichloroethane	0.16	µg/L	Primary Result	U	UJ	V	S	26041B
RD-50	7/21/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	0.42	µg/L	Primary Result	U	UJ	V	S	26041B
RD-50	7/21/2011	Primary Sample	8260B	1,2-Dichloroethane	0.13	µg/L	Primary Result	U	UJ	V	S	26041B
RD-50	7/21/2011	Primary Sample	8260B	Chloroform	0.16	µg/L	Primary Result	U	UJ	V	S	26041B
RD-50	7/21/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	0.15	µg/L	Primary Result	U	UJ	V	S	26041B
RD-50	7/21/2011	Primary Sample	8260B	Methylene chloride	0.32	µg/L	Primary Result	U	UJ	V	S	26041B
RD-50	7/21/2011	Primary Sample	8260B	o-Xylene	0.19	µg/L	Primary Result	U	UJ	V	S	26041B
RD-50	7/21/2011	Primary Sample	8260B	Tetrachloroethene	0.2	µg/L	Primary Result	U	UJ	V	S	26041B
RD-50	7/21/2011	Primary Sample	8260B	Trichloroethene	0.16	µg/L	Primary Result	U	UJ	V	S	26041B
RD-50	7/21/2011	Primary Sample	8260B	Trichlorofluoromethane	0.29	µg/L	Primary Result	U	UJ	V	S	26041B
RD-50	7/21/2011	Primary Sample	8260B	Vinyl chloride	0.1	µg/L	Primary Result	U	UJ	V	S	26041B
RD-50	7/21/2011	Primary Sample	8260B	Acetone	1.9	µg/L	Primary Result	U	UJ	V	S	26041B
RD-50	7/21/2011	Primary Sample	8260B	Benzene	0.16	µg/L	Primary Result	U	UJ	V	S	26041B
RD-50	7/21/2011	Primary Sample	8260B	Carbon Tetrachloride	0.19	µg/L	Primary Result	U	UJ	V	S	26041B
RD-50	7/21/2011	Primary Sample	8260B	Ethylbenzene	0.16	µg/L	Primary Result	U	UJ	V	S	26041B
RD-50	7/21/2011	Primary Sample	8260B	m-Xylene & p-Xylene	0.34	µg/L	Primary Result	U	UJ	V	S	26041B
RD-50	7/21/2011	Primary Sample	8260B	Methyl ethyl ketone	2	µg/L	Primary Result	U	UJ	V	S	26041B
RD-50	7/21/2011	Primary Sample	8260B	Toluene	0.17	µg/L	Primary Result	U	UJ	V	S	26041B
RD-50	7/21/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	0.15	µg/L	Primary Result	U	UJ	V	S	26041B
RD-50	7/21/2011	Primary Sample	900.0	Gross Alpha, Dissolved	8.594	pCi/L	Primary Result		J	V	L	26136B
RD-50	7/21/2011	Primary Sample	900.0	Gross alpha, Particulate	-0.196	pCi/L	Primary Result	U	UJ	V	L	26136B
RD-50	7/21/2011	Primary Sample	908.0	Uranium-233/234, Dissolved	5.369	pCi/L	Primary Result		J	V	*VIII	26136B
RD-50	7/21/2011	Primary Sample	908.0	Uranium, Dissolved	4.363	pCi/L	Primary Result		J	V	*VIII	26136B
RD-50	7/21/2011	Split Sample	6020	Antimony	0.00068	mg/L	Primary Result	J	J	V	TR	260900
RD-50	7/21/2011	Split Sample	6020	Cobalt	0.00048	mg/L	Primary Result	J	J	V	TR	260900
RD-50	7/21/2011	Split Sample	6020	Lead	0.00093	mg/L	Primary Result	J	J	V	TR	260900
RD-50	7/21/2011	Split Sample	6020	Nickel	0.00055	mg/L	Primary Result	J	J	V	TR	260900
RD-50	7/21/2011	Primary Sample	908.0	Uranium-235, Dissolved	0.5	pCi/L	Primary Result		J	V	*VIII	26136B
RD-50	7/21/2011	Split Sample	6020	Antimony, Dissolved	0.00048	mg/L	Primary Result	J	J	V	TR	260900
RD-50	7/21/2011	Split Sample	6020	Cobalt, Dissolved	0.00042	mg/L	Primary Result	J	J	V	TR	260900
RD-50	7/21/2011	Split Sample	6020	Nickel, Dissolved	0.00058	mg/L	Primary Result	J	J	V	TR	260900
RD-51A	8/3/2011	Primary Sample	300.0	Fluoride	0.43	mg/L	Primary Result	J	J	V	TR	26097E
RD-51A	8/3/2011	Primary Sample	8260B	Methylene chloride	5	µg/L	Primary Result	JB	U	V	B, T	26097E
RD-51A	8/3/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26090K
RD-51B	8/3/2011	Primary Sample	300.0	Fluoride	0.26	mg/L	Primary Result	J	J	V	TR	26097E
RD-51B	8/3/2011	Primary Sample	8260B	Acetone	10	µg/L	Primary Result	JB	U	V	B, T	26097E
RD-51B	8/3/2011	Primary Sample	350.1	Ammonia-N	0.086	mg/L	Primary Result	J	J	V	TR	26097E
RD-51B	8/3/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	0.37	µg/L	Primary Result	J	J	V	TR	26097E
RD-51B	8/3/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26090K
RD-51C	8/3/2011	Primary Sample	350.1	Ammonia-N	0.15	mg/L	Primary Result	J	J	V	TR	26097E
RD-51C	8/3/2011	Primary Sample	300.0	Fluoride	0.18	mg/L	Primary Result	J	J	V	TR	26097E

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
RD-51C	8/3/2011	Primary Sample	8260B	Acetone	10	µg/L	Primary Result	JB	U	V	B, T	26097E
RD-51C	8/3/2011	Primary Sample	8260B	Methylene chloride	5	µg/L	Primary Result	JB	U	V	B, T	26097E
RD-51C	8/3/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26090K
RD-52A	7/18/2011	Primary Sample	300.0	Fluoride	0.08	mg/L	Primary Result	J	J	V	TR	26013C
RD-52A	7/18/2011	Primary Sample	8015B	Diesel Range Organics (C21-C30)	0.031	mg/L	Lab Repeat Analysis	J	J	V	TR	26013C
RD-52A	7/18/2011	Primary Sample	350.1	Ammonia-N	0.31	mg/L	Primary Result	J	J	V	TR	26013C
RD-52A	7/18/2011	Primary Sample	8260B	1,1-Dichloroethane	2.9	µg/L	Primary Result	J	J	V	TR	26013C
RD-52A	7/18/2011	Primary Sample	8260B	Acetone	40	µg/L	Primary Result	JB	U	V	B, T	26013C
RD-52A	7/18/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	360	µg/L	Primary Result		J	V	Q	26013C
RD-52A	7/18/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	86	µg/L	Primary Result		J	V	Q	26013C
RD-52A	7/18/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	25976B
RD-52A	7/18/2011	Primary Sample	9040B	pH	7.14	pH Units	Primary Result	HTV	J	V	H	26013C
RD-52B	7/15/2011	Primary Sample	1625M	n-Nitrosodimethylamine	0.005	µg/L	Lab Repeat Analysis	UHTV	UJ	V	H	26013B
RD-52B	7/15/2011	Primary Sample	350.1	Ammonia-N	0.097	mg/L	Primary Result	J	J	V	TR	26013B
RD-52B	7/15/2011	Primary Sample	8260B	1,1-Dichloroethene	0.35	µg/L	Primary Result	J	J	V	S, TR	26013B
RD-52B	7/15/2011	Primary Sample	300.0	Fluoride	0.17	mg/L	Primary Result	J	J	V	TR	26013B
RD-52B	7/15/2011	Primary Sample	8260B	Vinyl chloride	1.4	µg/L	Primary Result		J	V	S	26013B
RD-52B	7/15/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	44	µg/L	Primary Result		J	V	S	26013B
RD-52B	7/15/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	20	µg/L	Primary Result		J	V	S	26013B
RD-52B	7/15/2011	Primary Sample	8260B	Trichloroethene	2.3	µg/L	Primary Result		J	V	S	26013B
RD-52B	7/15/2011	Primary Sample	8260B SIM	1,4-Dioxane	1	µg/L	Primary Result	J	J	V	TR	26013B
RD-52B	7/15/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	25976A
RD-52B	7/15/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	9.5	µg/L	Primary Result	JB	U	V	B	26013B
RD-52B	7/15/2011	Primary Sample	9040B	pH	7.43	pH Units	Primary Result	HTV	J	V	H	26013B
RD-52C	7/13/2011	Primary Sample	300.0	Fluoride	0.16	mg/L	Primary Result	J	J	V	TR	25950E
RD-52C	7/13/2011	Primary Sample	350.1	Ammonia-N	0.067	mg/L	Primary Result	JB	U	V	B	25950E
RD-52C	7/13/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	25950F
RD-52C	7/13/2011	Primary Sample	8260B SIM	1,4-Dioxane	1.2	µg/L	Primary Result	J	J	V	TR	25950E
RD-52C	7/13/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	0.69	µg/L	Primary Result	J	J	V	TR	25950E
RD-53	7/18/2011	Primary Sample	8260B	Acetone	10	µg/L	Primary Result	JB	U	V	B, T	26013C
RD-53	7/18/2011	Primary Sample	8260B	Tetrachloroethene	0.27	µg/L	Primary Result	J	J	V	TR	26013C
RD-53	7/18/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	1.9	µg/L	Primary Result	J	J	V	TR	26013C
RD-53	7/18/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	0.16	µg/L	Primary Result	J	J	V	TR	26013C
RD-53	7/18/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	25976B
RD-53	7/18/2011	Primary Sample	8260B	Trichloroethene	140	µg/L	Primary Result	HTV	J	V	H, S	26013C
RD-53	7/18/2011	Primary Sample	9040B	pH	7.2	pH Units	Primary Result	HTV	J	V	H	26013C
RD-54A	7/21/2011	Primary Sample	6020	Arsenic	0.0023	mg/L	Primary Result	J	J	V	TR	26041B
RD-54A	7/21/2011	Primary Sample	6020	Arsenic, Dissolved	0.0022	mg/L	Primary Result	J	J	V	TR	26041B
RD-54A	7/21/2011	Primary Sample	6020	Cobalt	0.00055	mg/L	Primary Result	J	J	V	TR	26041B
RD-54A	7/21/2011	Primary Sample	6020	Lead	0.00034	mg/L	Primary Result	J	J	V	TR	26041B
RD-54A	7/21/2011	Primary Sample	6020	Nickel	0.00076	mg/L	Primary Result	J	J	V	TR	26041B
RD-54A	7/21/2011	Primary Sample	6020	Silver, Dissolved	0.000022	mg/L	Primary Result	J	J	V	TR	26041B
RD-54A	7/21/2011	Primary Sample	6020	Thallium	0.000021	mg/L	Primary Result	JB	U	V	B	26041B
RD-54A	7/21/2011	Primary Sample	6020	Zinc	0.0033	mg/L	Primary Result	J	J	V	TR	26041B

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
RD-54A	7/21/2011	Primary Sample	6020	Cobalt, Dissolved	0.00054	mg/L	Primary Result	J	J	V	TR	26041B
RD-54A	7/21/2011	Primary Sample	6020	Copper	0.0018	mg/L	Primary Result	J	J	V	TR	26041B
RD-54A	7/21/2011	Primary Sample	6020	Copper, Dissolved	0.0007	mg/L	Primary Result	J	J	V	TR	26041B
RD-54A	7/21/2011	Primary Sample	6020	Nickel, Dissolved	0.00085	mg/L	Primary Result	JB	U	V	B	26041B
RD-54A	7/21/2011	Primary Sample	6020	Thallium, Dissolved	0.00003	mg/L	Primary Result	JB	U	V	B	26041B
RD-54A	7/21/2011	Primary Sample	6020	Zinc, Dissolved	0.0065	mg/L	Primary Result	J	J	V	TR	26041B
RD-54A	7/21/2011	Primary Sample	900.0	Gross Alpha, Dissolved	8.564	pCi/L	Primary Result		J	V	L	26136B
RD-54A	7/21/2011	Primary Sample	900.0	Gross alpha, Particulate	0.129	pCi/L	Primary Result	U	UJ	V	L	26136B
RD-54A	7/21/2011	Primary Sample	908.0	Uranium-233/234, Particulate	0.122	pCi/L	Primary Result	U	UJ	V	*VIII	26136B
RD-54A	7/21/2011	Primary Sample	908.0	Uranium-235, Dissolved	0.304	pCi/L	Primary Result	J	J	V	TR	26136B
RD-54A	7/21/2011	Primary Sample	908.0	Uranium-235, Particulate	0.019	pCi/L	Primary Result	U	UJ	V	*VIII	26136B
RD-54A	7/21/2011	Primary Sample	908.0	Uranium, Particulate	0.114	pCi/L	Primary Result	J	J	V	TR, *VIII	26136B
RD-55A	7/26/2011	Primary Sample	350.1	Ammonia-N	0.1	mg/L	Primary Result	JB	U	V	B	26041C
RD-55A	7/26/2011	Primary Sample	300.0	Fluoride	0.18	mg/L	Primary Result	J	J	V	TR	26041C
RD-55A	7/26/2011	Primary Sample	314.0	Perchlorate	0.92	µg/L	Primary Result	J	J	V	TR	26041C
RD-55A	7/26/2011	Primary Sample	8260B	Acetone	10	µg/L	Primary Result	JB	UJ	V	B, S, T	26041C
RD-55A	7/26/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26034E
RD-55B	7/29/2011	Primary Sample	350.1	Ammonia-N	0.18	mg/L	Primary Result	JB	U	V	B	26090H
RD-55B	7/29/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	8	µg/L	Primary Result		J	V	S	26090H
RD-55B	7/29/2011	Primary Sample	8260B	Acetone	10	µg/L	Primary Result	J	UJ	V	L, S, T	26090H
RD-55B	7/29/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	11	µg/L	Primary Result	JB	U	V	B	26090H
RD-55B	7/29/2011	Primary Sample	8260B	Trichloroethene	8.4	µg/L	Primary Result		J	V	S	26090H
RD-55B	7/29/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26041F
RD-56A	7/13/2011	Primary Sample	300.0	Fluoride	0.43	mg/L	Primary Result	J	J	V	TR	25950E
RD-56A	7/13/2011	Primary Sample	8260B	Vinyl chloride	0.56	µg/L	Primary Result	J	J	V	TR	25950E
RD-56A	7/13/2011	Primary Sample	906.0	Tritium	1763.28	pCi/L	Primary Result		R	IV	D	26629B
RD-56B	7/13/2011	Primary Sample	300.0	Fluoride	0.36	mg/L	Primary Result	J	J	V	TR	25950E
RD-56B	7/13/2011	Primary Sample	8260B	Acetone	6.2	µg/L	Primary Result	J	J	V	TR	25950E
RD-56B	7/13/2011	Primary Sample	8260B	Methylene chloride	5	µg/L	Primary Result	J	U	V	T	25950E
RD-56B	7/13/2011	Primary Sample	908.0	Uranium-235, Particulate	0.357	pCi/L	Primary Result	U	UJ	V	*VIII	26090C
RD-56B	7/13/2011	Primary Sample	908.0	Uranium-233/234, Particulate	1.986	pCi/L	Primary Result		J	V	*VIII	26090C
RD-56B	7/13/2011	Primary Sample	908.0	Uranium, Particulate	1.223	pCi/L	Primary Result		J	V	*VIII	26090C
RD-57	7/21/2011	Primary Sample	900.0	Gross Alpha, Dissolved	9.787	pCi/L	Primary Result		J	V	L	26136B
RD-57	7/21/2011	Primary Sample	900.0	Gross alpha, Particulate	-0.128	pCi/L	Primary Result	U	UJ	V	L	26136B
RD-57	7/21/2011	Primary Sample	900.0	Gross Beta, Dissolved	3.848	pCi/L	Primary Result	J	J	V	TR	26136B
RD-57	7/22/2011	Primary Sample	6020	Arsenic	0.0038	mg/L	Primary Result	J	J	V	TR	26050D
RD-57	7/22/2011	Primary Sample	6020	Arsenic, Dissolved	0.004	mg/L	Primary Result	J	J	V	TR	26050D
RD-57	7/22/2011	Primary Sample	6020	Cadmium	0.000068	mg/L	Primary Result	J	J	V	TR	26050D
RD-57	7/22/2011	Primary Sample	6020	Cadmium, Dissolved	0.000088	mg/L	Primary Result	J	J	V	TR	26050D
RD-57	7/22/2011	Primary Sample	6020	Selenium	0.0024	mg/L	Primary Result	J	J	V	TR	26050D
RD-57	7/22/2011	Primary Sample	6020	Selenium, Dissolved	0.0024	mg/L	Primary Result	J	J	V	TR	26050D
RD-57	7/22/2011	Primary Sample	6020	Vanadium	0.0013	mg/L	Primary Result	J	J	V	TR	26050D
RD-57	7/22/2011	Primary Sample	6020	Antimony	0.00018	mg/L	Primary Result	J	J	V	TR	26050D
RD-57	7/22/2011	Primary Sample	6020	Antimony, Dissolved	0.00017	mg/L	Primary Result	J	J	V	TR	26050D

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
RD-57	7/22/2011	Primary Sample	6020	Cobalt	0.00034	mg/L	Primary Result	J	J	V	TR	26050D
RD-57	7/22/2011	Primary Sample	6020	Cobalt, Dissolved	0.00034	mg/L	Primary Result	J	J	V	TR	26050D
RD-57	7/22/2011	Primary Sample	6020	Nickel	0.0017	mg/L	Primary Result	J	J	V	TR	26050D
RD-57	7/22/2011	Primary Sample	6020	Nickel, Dissolved	0.0015	mg/L	Primary Result	J	J	V	TR	26050D
RD-57	7/22/2011	Primary Sample	6020	Thallium	0.00006	mg/L	Primary Result	JB	U	V	B	26050D
RD-57	7/22/2011	Primary Sample	6020	Thallium, Dissolved	0.000033	mg/L	Primary Result	J	J	V	TR	26050D
RD-57	7/22/2011	Primary Sample	6020	Vanadium, Dissolved	0.0013	mg/L	Primary Result	J	J	V	TR	26050D
RD-57	7/25/2011	Primary Sample	908.0	Uranium-235, Dissolved	0.5975	pCi/L	Primary Result		J	V	*VIII	26171A
RD-57	7/25/2011	Primary Sample	908.0	Uranium-235, Particulate	-0.00996	pCi/L	Primary Result	U	UJ	V	*VIII	26171A
RD-57	7/25/2011	Primary Sample	908.0	Uranium, Dissolved	4.268	pCi/L	Primary Result		J	V	*VIII	26171A
RD-57	7/25/2011	Primary Sample	908.0	Uranium-233/234, Dissolved	4.875	pCi/L	Primary Result		J	V	*VIII	26171A
RD-57	7/25/2011	Primary Sample	908.0	Uranium-233/234, Particulate	0.1343	pCi/L	Primary Result	U	UJ	V	*VIII	26171A
RD-57	7/25/2011	Primary Sample	908.0	Uranium, Particulate	-0.009	pCi/L	Primary Result	U	UJ	V	*VIII	26171A
RD-58A	7/25/2011	Field Duplicate	8260B	Acetone	10	µg/L	Primary Result	JB	U	V	B	26050E
RD-58A	7/25/2011	Field Duplicate	300.0	Fluoride	0.26	mg/L	Primary Result	J	J	V	TR	26050E
RD-58A	7/25/2011	Field Duplicate	300.0	Nitrate-NO3	0.19	mg/L	Primary Result	J	J	V	TR	26050E
RD-58A	7/25/2011	Field Duplicate	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	4	µg/L	Primary Result	J	J	V	TR	26050E
RD-58A	7/25/2011	Field Duplicate	8260B	Trichloroethene	120	µg/L	Primary Result	HTV	J	V	H, S	26050E
RD-58A	7/25/2011	Field Duplicate	8270C	Di-n-octyl phthalate	2.1	µg/L	Primary Result	J	J	V	TR	26050E
RD-58A	7/25/2011	Field Duplicate	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26034D
RD-58A	7/25/2011	Field Duplicate	9040B	pH	7.15	pH Units	Primary Result	HTV	J	V	H	26050E
RD-58A	7/25/2011	Primary Sample	300.0	Fluoride	0.27	mg/L	Primary Result	J	J	V	TR	26050E
RD-58A	7/25/2011	Primary Sample	300.0	Nitrate-NO3	0.2	mg/L	Primary Result	J	J	V	TR	26050E
RD-58A	7/25/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	4.1	µg/L	Primary Result	J	J	V	S, TR	26050E
RD-58A	7/25/2011	Field Duplicate	8270C	bis(2-Ethylhexyl) phthalate	0.57	µg/L	Primary Result	J	J	V	TR	26050E
RD-58A	7/25/2011	Primary Sample	350.1	Ammonia-N	0.078	mg/L	Primary Result	JB	U	V	B	26050E
RD-58A	7/25/2011	Primary Sample	8260B	Acetone	10	µg/L	Primary Result	JB	UJ	V	B, S	26050E
RD-58A	7/25/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	1.9	µg/L	Primary Result	J	J	V	S	26050E
RD-58A	7/25/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26034D
RD-58A	7/25/2011	Primary Sample	9040B	pH	7.03	pH Units	Primary Result	HTV	J	V	H	26050E
RD-58B	7/25/2011	Primary Sample	350.1	Ammonia-N	0.066	mg/L	Primary Result	JB	U	V	B	26050E
RD-58B	7/25/2011	Primary Sample	8260B	1,1,1-Trichloroethane	0.16	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58B	7/25/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	0.42	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58B	7/25/2011	Primary Sample	8260B	1,2-Dichloroethane	0.13	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58B	7/25/2011	Primary Sample	300.0	Fluoride	0.26	mg/L	Primary Result	J	J	V	TR	26050E
RD-58B	7/25/2011	Primary Sample	8260B	1,1,2-Trichloroethane	0.27	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58B	7/25/2011	Primary Sample	8260B	1,1-Dichloroethane	0.22	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58B	7/25/2011	Primary Sample	8260B	1,1-Dichloroethene	0.23	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58B	7/25/2011	Primary Sample	8260B	Acetone	10	µg/L	Primary Result	JB	UJ	V	B, S	26050E
RD-58B	7/25/2011	Primary Sample	8260B	Benzene	0.16	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58B	7/25/2011	Primary Sample	8260B	Carbon Tetrachloride	0.19	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58B	7/25/2011	Primary Sample	8260B	Ethylbenzene	0.16	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58B	7/25/2011	Primary Sample	8260B	Isopropanol	13	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58B	7/25/2011	Primary Sample	8260B	m-Xylene & p-Xylene	0.34	µg/L	Primary Result	U	UJ	V	S	26050E

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
RD-58B	7/25/2011	Primary Sample	8260B	Tetrachloroethene	0.2	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58B	7/25/2011	Primary Sample	8260B	Toluene	0.17	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58B	7/25/2011	Primary Sample	8260B	Vinyl chloride	0.1	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58B	7/25/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	1.2	µg/L	Primary Result	J	J	V	TR	26050E
RD-58B	7/25/2011	Primary Sample	8260B	Chloroform	0.16	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58B	7/25/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	0.15	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58B	7/25/2011	Primary Sample	8260B	Methyl ethyl ketone	2	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58B	7/25/2011	Primary Sample	8260B	Methylene chloride	0.32	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58B	7/25/2011	Primary Sample	8260B	o-Xylene	0.19	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58B	7/25/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	0.15	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58B	7/25/2011	Primary Sample	8260B	Trichloroethene	0.16	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58B	7/25/2011	Primary Sample	8260B	Trichlorofluoromethane	0.29	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58B	7/25/2011	Primary Sample	8270C	Di-n-octyl phthalate	2	µg/L	Primary Result	J	J	V	TR	26050E
RD-58B	7/25/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26034D
RD-58B	7/25/2011	Primary Sample	9040B	pH	7.29	pH Units	Primary Result	HTV	J	V	H	26050E
RD-58C	7/25/2011	Primary Sample	300.0	Fluoride	0.11	mg/L	Primary Result	J	J	V	TR	26050E
RD-58C	7/25/2011	Primary Sample	8260B	1,1,2-Trichloroethane	0.27	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58C	7/25/2011	Primary Sample	8260B	1,1-Dichloroethane	0.22	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58C	7/25/2011	Primary Sample	8260B	1,1-Dichloroethene	0.23	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58C	7/25/2011	Primary Sample	8260B	Acetone	10	µg/L	Primary Result	JB	UJ	V	B, S	26050E
RD-58C	7/25/2011	Primary Sample	8260B	Benzene	0.16	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58C	7/25/2011	Primary Sample	8260B	Carbon Tetrachloride	0.19	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58C	7/25/2011	Primary Sample	350.1	Ammonia-N	0.15	mg/L	Primary Result	JB	U	V	B	26050E
RD-58C	7/25/2011	Primary Sample	8260B	1,1,1-Trichloroethane	0.16	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58C	7/25/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	0.42	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58C	7/25/2011	Primary Sample	8260B	1,2-Dichloroethane	0.13	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58C	7/25/2011	Primary Sample	8260B	Chloroform	0.16	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58C	7/25/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	0.59	µg/L	Primary Result	J	J	V	S, TR	26050E
RD-58C	7/25/2011	Primary Sample	8260B	Methyl ethyl ketone	2	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58C	7/25/2011	Primary Sample	8260B	Methylene chloride	0.32	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58C	7/25/2011	Primary Sample	8260B	o-Xylene	0.19	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58C	7/25/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	0.15	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58C	7/25/2011	Primary Sample	8260B	Trichloroethene	0.16	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58C	7/25/2011	Primary Sample	8260B	Trichlorofluoromethane	0.29	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58C	7/25/2011	Primary Sample	8260B	Ethylbenzene	0.16	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58C	7/25/2011	Primary Sample	8260B	Isopropanol	13	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58C	7/25/2011	Primary Sample	8260B	m-Xylene & p-Xylene	0.34	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58C	7/25/2011	Primary Sample	8260B	Tetrachloroethene	0.2	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58C	7/25/2011	Primary Sample	8260B	Toluene	0.17	µg/L	Primary Result	U	UJ	V	S	26050E
RD-58C	7/25/2011	Primary Sample	8260B	Vinyl chloride	1	µg/L	Primary Result		J	V	S	26050E
RD-58C	7/25/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	9	µg/L	Primary Result	J	J	V	TR	26050E
RD-58C	7/25/2011	Primary Sample	DV-WC-0077	Monomethylhydrazine	0.29	µg/L	Primary Result	J	J	V	TR	26050E
RD-58C	7/25/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26034D
RD-58C	7/25/2011	Primary Sample	9040B	pH	7.75	pH Units	Primary Result	HTV	J	V	H	26050E

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
RD-59A	7/11/2011	Primary Sample	6020	Arsenic, Dissolved	0.00086	mg/L	Primary Result	J	J	V	TR	26013E
RD-59A	7/11/2011	Primary Sample	6020	Antimony	0.000092	mg/L	Primary Result	JB	U	V	B	26013E
RD-59A	7/11/2011	Primary Sample	6020	Arsenic	0.0009	mg/L	Primary Result	J	J	V	TR	26013E
RD-59A	7/11/2011	Primary Sample	6020	Cobalt	0.00036	mg/L	Primary Result	J	J	V	TR	26013E
RD-59A	7/11/2011	Primary Sample	6020	Cobalt, Dissolved	0.00029	mg/L	Primary Result	J	J	V	TR	26013E
RD-59A	7/11/2011	Primary Sample	6020	Thallium	0.00014	mg/L	Primary Result	JB	U	V	B	26013E
RD-59A	7/11/2011	Primary Sample	6020	Vanadium	0.00038	mg/L	Primary Result	J	J	V	TR	26013E
RD-59A	7/11/2011	Primary Sample	6020	Vanadium, Dissolved	0.00032	mg/L	Primary Result	J	J	V	TR	26013E
RD-59A	7/11/2011	Primary Sample	8260B	Acetone	10	µg/L	Primary Result	J	U	V	T	26013E
RD-59A	7/11/2011	Primary Sample	6020	Zinc	0.0069	mg/L	Primary Result	J	J	V	TR	26013E
RD-59A	7/11/2011	Primary Sample	6020	Zinc, Dissolved	0.003	mg/L	Primary Result	J	J	V	TR	26013E
RD-59A	7/11/2011	Primary Sample	908.0	Uranium-233/234, Dissolved	1.101	pCi/L	Primary Result	J	J	V	*VII	26090A
RD-59A	7/11/2011	Primary Sample	908.0	Uranium-235, Dissolved	0.112	pCi/L	Primary Result	U	UJ	V	*VII	26090A
RD-59A	7/11/2011	Primary Sample	908.0	Uranium, Dissolved	0.511	pCi/L	Primary Result		J	V	*VII	26090A
RD-59B	7/11/2011	Primary Sample	6020	Cadmium, Dissolved	0.000055	mg/L	Primary Result	J	J	V	TR	26013E
RD-59B	7/11/2011	Primary Sample	6020	Copper	0.0016	mg/L	Primary Result	J	J	V	TR	26013E
RD-59B	7/11/2011	Primary Sample	6020	Copper, Dissolved	0.0009	mg/L	Primary Result	J	J	V	TR	26013E
RD-59B	7/11/2011	Primary Sample	6020	Nickel, Dissolved	0.00044	mg/L	Primary Result	J	J	V	TR	26013E
RD-59B	7/11/2011	Primary Sample	6020	Nickel	0.00049	mg/L	Primary Result	J	J	V	TR	26013E
RD-59B	7/11/2011	Primary Sample	6020	Zinc	0.019	mg/L	Primary Result	J	J	V	TR	26013E
RD-59B	7/11/2011	Primary Sample	8260B	Acetone	10	µg/L	Primary Result	J	U	V	T	26013E
RD-59B	7/11/2011	Primary Sample	900.0	Gross Beta, Dissolved	5.27	pCi/L	Primary Result	J	J	V	TR	26090A
RD-59B	7/11/2011	Primary Sample	908.0	Uranium-235, Dissolved	0.006	pCi/L	Primary Result	U	UJ	V	*VII	26090A
RD-59B	7/11/2011	Primary Sample	908.0	Uranium-233/234, Dissolved	0.299	pCi/L	Primary Result	J	J	V	TR, *VII	26090A
RD-59B	7/11/2011	Primary Sample	908.0	Uranium, Dissolved	0.174	pCi/L	Primary Result	U	UJ	V	*VII	26090A
RD-59C	7/11/2011	Primary Sample	6020	Cobalt	0.000063	mg/L	Primary Result	J	J	V	TR	26013E
RD-59C	7/11/2011	Primary Sample	6020	Nickel	0.00039	mg/L	Primary Result	J	J	V	TR	26013E
RD-59C	7/11/2011	Primary Sample	6020	Nickel, Dissolved	0.0003	mg/L	Primary Result	J	J	V	TR	26013E
RD-59C	7/11/2011	Primary Sample	6020	Thallium, Dissolved	0.000026	mg/L	Primary Result	JB	U	V	B	26013E
RD-59C	7/11/2011	Primary Sample	6020	Zinc, Dissolved	0.011	mg/L	Primary Result	J	J	V	TR	26013E
RD-59C	7/11/2011	Primary Sample	8260B	1,1,1-Trichloroethane	0.16	µg/L	Primary Result	U	UJ	V	S	26013E
RD-59C	7/11/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	0.42	µg/L	Primary Result	U	UJ	V	S	26013E
RD-59C	7/11/2011	Primary Sample	8260B	1,2-Dichloroethane	0.13	µg/L	Primary Result	U	UJ	V	S	26013E
RD-59C	7/11/2011	Primary Sample	8260B	Chloroform	0.16	µg/L	Primary Result	U	UJ	V	S	26013E
RD-59C	7/11/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	0.15	µg/L	Primary Result	U	UJ	V	S	26013E
RD-59C	7/11/2011	Primary Sample	6020	Thallium	0.00011	mg/L	Primary Result	JB	U	V	B	26013E
RD-59C	7/11/2011	Primary Sample	6020	Zinc	0.015	mg/L	Primary Result	J	J	V	TR	26013E
RD-59C	7/11/2011	Primary Sample	8260B	1,1,2-Trichloroethane	0.27	µg/L	Primary Result	U	UJ	V	S	26013E
RD-59C	7/11/2011	Primary Sample	8260B	1,1-Dichloroethane	0.22	µg/L	Primary Result	U	UJ	V	S	26013E
RD-59C	7/11/2011	Primary Sample	8260B	1,1-Dichloroethene	0.23	µg/L	Primary Result	U	UJ	V	S	26013E
RD-59C	7/11/2011	Primary Sample	8260B	Acetone	10	µg/L	Primary Result	J	UJ	V	S, T	26013E
RD-59C	7/11/2011	Primary Sample	8260B	Benzene	0.16	µg/L	Primary Result	U	UJ	V	S	26013E
RD-59C	7/11/2011	Primary Sample	8260B	Carbon Tetrachloride	0.19	µg/L	Primary Result	U	UJ	V	S	26013E
RD-59C	7/11/2011	Primary Sample	8260B	Ethylbenzene	0.16	µg/L	Primary Result	U	UJ	V	S	26013E

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
RD-59C	7/11/2011	Primary Sample	8260B	m-Xylene & p-Xylene	0.34	µg/L	Primary Result	U	UJ	V	S	26013E
RD-59C	7/11/2011	Primary Sample	8260B	Methyl ethyl ketone	2	µg/L	Primary Result	U	UJ	V	S	26013E
RD-59C	7/11/2011	Primary Sample	8260B	Toluene	0.17	µg/L	Primary Result	U	UJ	V	S	26013E
RD-59C	7/11/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	0.15	µg/L	Primary Result	U	UJ	V	S	26013E
RD-59C	7/11/2011	Primary Sample	8260B	Methylene chloride	0.32	µg/L	Primary Result	U	UJ	V	S	26013E
RD-59C	7/11/2011	Primary Sample	8260B	o-Xylene	0.19	µg/L	Primary Result	U	UJ	V	S	26013E
RD-59C	7/11/2011	Primary Sample	8260B	Tetrachloroethene	0.2	µg/L	Primary Result	U	UJ	V	S	26013E
RD-59C	7/11/2011	Primary Sample	8260B	Trichloroethene	0.16	µg/L	Primary Result	U	UJ	V	S	26013E
RD-59C	7/11/2011	Primary Sample	8260B	Trichlorofluoromethane	0.29	µg/L	Primary Result	U	UJ	V	S	26013E
RD-59C	7/11/2011	Primary Sample	8260B	Vinyl chloride	0.1	µg/L	Primary Result	U	UJ	V	S	26013E
RD-59C	7/11/2011	Primary Sample	901.1	Potassium-40, Particulate	2.437	pCi/L	Primary Result	J	J	IV	TR	26298B
RD-60	7/18/2011	Primary Sample	300.0	Fluoride	0.27	mg/L	Primary Result	J	J	V	TR	26013C
RD-60	7/18/2011	Primary Sample	8260B	Acetone	6	µg/L	Primary Result	J	J	V	L, TR	26013C
RD-60	7/18/2011	Primary Sample	8260B	Trichloroethene	220	µg/L	Primary Result		J	V	S	26013C
RD-60	7/18/2011	Primary Sample	908.0	Uranium-233/234, Particulate	0.054	pCi/L	Primary Result	U	UJ	V	*VIII	26136A
RD-60	7/18/2011	Primary Sample	908.0	Uranium, Particulate	0.071	pCi/L	Primary Result	U	UJ	V	*VIII	26136A
RD-60	7/18/2011	Primary Sample	908.0	Uranium-235, Dissolved	0.276	pCi/L	Primary Result	J	J	V	TR	26136A
RD-60	7/18/2011	Primary Sample	908.0	Uranium-235, Particulate	-0.032	pCi/L	Primary Result	U	UJ	V	*VIII	26136A
RD-61	7/28/2011	Primary Sample	8260B	Methylene chloride	5	µg/L	Primary Result	JB	U	V	B, T	26062D
RD-62	7/28/2011	Primary Sample	8260B	Methylene chloride	5	µg/L	Primary Result	JB	U	V	B, T	26062D
RD-63	7/18/2011	Primary Sample	300.0	Fluoride	0.32	mg/L	Primary Result	J	J	V	TR	26013C
RD-63	7/18/2011	Primary Sample	6020	Cobalt	0.00028	mg/L	Primary Result	J	J	V	TR	26013C
RD-63	7/18/2011	Primary Sample	6020	Cobalt, Dissolved	0.00026	mg/L	Primary Result	J	J	V	TR	26013C
RD-63	7/18/2011	Primary Sample	6020	Nickel	0.0017	mg/L	Primary Result	J	J	V	TR	26013C
RD-63	7/18/2011	Primary Sample	6020	Nickel, Dissolved	0.0014	mg/L	Primary Result	J	J	V	TR	26013C
RD-63	7/18/2011	Primary Sample	6020	Selenium	0.0012	mg/L	Primary Result	J	J	V	TR	26013C
RD-63	7/18/2011	Primary Sample	6020	Thallium	0.000049	mg/L	Primary Result	JB	U	V	B	26013C
RD-63	7/18/2011	Primary Sample	6020	Thallium, Dissolved	0.000064	mg/L	Primary Result	J	J	V	TR	26013C
RD-63	7/18/2011	Primary Sample	8260B	1,1,1-Trichloroethane	0.16	µg/L	Primary Result	UHTV	UJ	V	H	26013C
RD-63	7/18/2011	Primary Sample	8260B	1,1-Dichloroethane	0.46	µg/L	Primary Result	JHTV	J	V	H, S, TR	26013C
RD-63	7/18/2011	Primary Sample	8260B	1,1-Dichloroethene	0.67	µg/L	Primary Result	JHTV	J	V	H, S, TR	26013C
RD-63	7/18/2011	Primary Sample	8260B	1,2-Dichloroethane	0.13	µg/L	Primary Result	UHTV	UJ	V	H	26013C
RD-63	7/18/2011	Primary Sample	8260B	Benzene	0.16	µg/L	Primary Result	UHTV	UJ	V	H	26013C
RD-63	7/18/2011	Primary Sample	8260B	Carbon Tetrachloride	0.19	µg/L	Primary Result	UHTV	UJ	V	H	26013C
RD-63	7/18/2011	Primary Sample	8260B	Chloroform	0.16	µg/L	Primary Result	UHTV	UJ	V	H	26013C
RD-63	7/18/2011	Primary Sample	8260B	m-Xylene & p-Xylene	0.34	µg/L	Primary Result	UHTV	UJ	V	H	26013C
RD-63	7/18/2011	Primary Sample	8260B	Methyl ethyl ketone	2	µg/L	Primary Result	UHTV	UJ	V	H	26013C
RD-63	7/18/2011	Primary Sample	6020	Selenium, Dissolved	0.00072	mg/L	Primary Result	J	J	V	TR	26013C
RD-63	7/18/2011	Primary Sample	6020	Silver, Dissolved	0.00002	mg/L	Primary Result	J	J	V	TR	26013C
RD-63	7/18/2011	Primary Sample	6020	Vanadium	0.00023	mg/L	Primary Result	J	J	V	TR	26013C
RD-63	7/18/2011	Primary Sample	6020	Vanadium, Dissolved	0.00014	mg/L	Primary Result	J	J	V	TR	26013C
RD-63	7/18/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	0.42	µg/L	Primary Result	UHTV	UJ	V	H	26013C
RD-63	7/18/2011	Primary Sample	8260B	1,1,2-Trichloroethane	0.27	µg/L	Primary Result	UHTV	UJ	V	H	26013C
RD-63	7/18/2011	Primary Sample	8260B	Acetone	1.9	µg/L	Primary Result	UHTV	UJ	V	H	26013C

TABLE B-3
SUMMARY OF THIRD QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
RD-63	7/18/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	2.9	µg/L	Primary Result	HTV	J	V	H, S	26013C
RD-63	7/18/2011	Primary Sample	8260B	Ethylbenzene	0.16	µg/L	Primary Result	UHTV	UJ	V	H	26013C
RD-63	7/18/2011	Primary Sample	8260B	Methylene chloride	0.32	µg/L	Primary Result	UHTV	UJ	V	H	26013C
RD-63	7/18/2011	Primary Sample	8260B	o-Xylene	0.19	µg/L	Primary Result	UHTV	UJ	V	H	26013C
RD-63	7/18/2011	Primary Sample	8260B	Tetrachloroethene	0.2	µg/L	Primary Result	UHTV	UJ	V	H	26013C
RD-63	7/18/2011	Primary Sample	8260B	Trichloroethene	5.7	µg/L	Primary Result	HTV	J	V	H, S	26013C
RD-63	7/18/2011	Primary Sample	8260B	Trichlorofluoromethane	0.29	µg/L	Primary Result	UHTV	UJ	V	H	26013C
RD-63	7/18/2011	Primary Sample	8260B	Vinyl chloride	0.1	µg/L	Primary Result	UHTV	UJ	V	H	26013C
RD-63	7/18/2011	Primary Sample	8260B	Toluene	0.17	µg/L	Primary Result	UHTV	UJ	V	H	26013C
RD-63	7/18/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	0.15	µg/L	Primary Result	UHTV	UJ	V	H	26013C
RD-63	7/18/2011	Primary Sample	8260B SIM	1,4-Dioxane	1.2	µg/L	Primary Result	J	J	V	TR	26013C
RD-63	7/18/2011	Primary Sample	908.0	Uranium-233/234, Dissolved	4.711	pCi/L	Primary Result		J	V	*VIII	26136A
RD-63	7/18/2011	Primary Sample	908.0	Uranium-233/234, Particulate	0.084	pCi/L	Primary Result	U	UJ	V	*VIII	26136A
RD-63	7/18/2011	Primary Sample	908.0	Uranium, Particulate	0.038	pCi/L	Primary Result	U	UJ	V	*VIII	26136A
RD-63	7/18/2011	Primary Sample	908.0	Uranium-235, Dissolved	0.545	pCi/L	Primary Result		J	V	*VIII	26136A
RD-63	7/18/2011	Primary Sample	908.0	Uranium-235, Particulate	0.042	pCi/L	Primary Result	U	UJ	V	*VIII	26136A
RD-63	7/18/2011	Primary Sample	908.0	Uranium, Dissolved	6.195	pCi/L	Primary Result		J	V	*VIII	26136A
RD-66	8/4/2011	Primary Sample	8260B	Methylene chloride	5	µg/L	Primary Result	JB	U	V	B, T	26097G
RD-67	7/19/2011	Primary Sample	1625M	n-Nitrosodimethylamine	0.005	µg/L	Lab Repeat Analysis	UHTV	UJ	V	H	26013D
RD-67	7/19/2011	Primary Sample	8260B	Acetone	2.9	µg/L	Primary Result	J	UJ	V	L, S, T	26013D
RD-68A	7/11/2011	Field Duplicate	1625M	n-Nitrosodimethylamine	0.005	µg/L	Lab Repeat Analysis	UHTV	UJ	V	H	26050A
RD-68A	7/11/2011	Primary Sample	300.0	Fluoride	0.11	mg/L	Primary Result	J	J	V	S, TR	26013E
RD-68A	7/11/2011	Primary Sample	1625M	n-Nitrosodimethylamine	0.01	µg/L	Primary Result		J	V	L, S	26013E
RD-68A	7/11/2011	Primary Sample	350.1	Ammonia-N	0.085	mg/L	Primary Result	JB	U	V	B	26013E
RD-68A	7/11/2011	Primary Sample	8260B	Acetone	10	µg/L	Primary Result	J	UJ	V	S, T	26013E
RD-68A	7/11/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	25950B
RD-68A	7/11/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	9.5	µg/L	Primary Result	JB	U	V	B	26013E
RD-68B	7/11/2011	Primary Sample	314.0	Perchlorate	0.67	µg/L	Primary Result	J	J	IV	TR	26298A
RD-68B	7/11/2011	Primary Sample	350.1	Ammonia-N	0.11	mg/L	Primary Result	JB	U	V	B	26013E
RD-68B	7/11/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	0.4	µg/L	Primary Result	J	J	IV	TR	26298A
RD-68B	7/11/2011	Primary Sample	8260B	Acetone	10	µg/L	Primary Result	J	U	IV	T	26298A
RD-68B	7/11/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	9.5	µg/L	Primary Result	JB	U	V	B	26013E
RD-68B	7/11/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	25950B
RD-69	7/26/2011	Field Duplicate	8260B	Acetone	7.2	µg/L	Primary Result	J	J	V	TR	26041C
RD-69	7/26/2011	Primary Sample	8260B	Acetone	10	µg/L	Primary Result	JB	UJ	V	B, S	26041C
RD-70	7/28/2011	Primary Sample	8260B	Methylene chloride	5	µg/L	Primary Result	JB	U	V	B, T	26062D
RD-71	8/5/2011	Primary Sample	8260B	1,1,1-Trichloroethane	0.16	µg/L	Primary Result	U	UJ	V	S	26171E
RD-71	8/5/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	0.42	µg/L	Primary Result	U	UJ	V	S	26171E
RD-71	8/5/2011	Primary Sample	8260B	1,2-Dichloroethane	0.13	µg/L	Primary Result	U	UJ	V	S	26171E
RD-71	8/5/2011	Primary Sample	8260B	Chloroform	0.16	µg/L	Primary Result	U	UJ	V	S	26171E
RD-71	8/5/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	0.15	µg/L	Primary Result	U	UJ	V	S	26171E
RD-71	8/5/2011	Primary Sample	8260B	Methylene chloride	0.32	µg/L	Primary Result	U	UJ	V	S	26171E
RD-71	8/5/2011	Primary Sample	8260B	o-Xylene	0.19	µg/L	Primary Result	U	UJ	V	S	26171E
RD-71	8/5/2011	Primary Sample	8260B	Tetrachloroethene	0.2	µg/L	Primary Result	U	UJ	V	S	26171E

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
RD-71	8/5/2011	Primary Sample	8260B	Trichloroethene	0.16	µg/L	Primary Result	U	UJ	V	S	26171E
RD-71	8/5/2011	Primary Sample	8260B	Trichlorofluoromethane	0.29	µg/L	Primary Result	U	UJ	V	S	26171E
RD-71	8/5/2011	Primary Sample	8260B	Vinyl chloride	0.1	µg/L	Primary Result	U	UJ	V	S	26171E
RD-71	8/5/2011	Primary Sample	8260B	1,1,2-Trichloroethane	0.27	µg/L	Primary Result	U	UJ	V	S	26171E
RD-71	8/5/2011	Primary Sample	8260B	1,1-Dichloroethane	0.22	µg/L	Primary Result	U	UJ	V	S	26171E
RD-71	8/5/2011	Primary Sample	8260B	1,1-Dichloroethene	0.23	µg/L	Primary Result	U	UJ	V	S	26171E
RD-71	8/5/2011	Primary Sample	8260B	Acetone	1.9	µg/L	Primary Result	U	UJ	V	S	26171E
RD-71	8/5/2011	Primary Sample	8260B	Benzene	0.16	µg/L	Primary Result	U	UJ	V	S	26171E
RD-71	8/5/2011	Primary Sample	8260B	Carbon Tetrachloride	0.19	µg/L	Primary Result	U	UJ	V	S	26171E
RD-71	8/5/2011	Primary Sample	8260B	Ethylbenzene	0.16	µg/L	Primary Result	U	UJ	V	S	26171E
RD-71	8/5/2011	Primary Sample	8260B	m-Xylene & p-Xylene	0.34	µg/L	Primary Result	U	UJ	V	S	26171E
RD-71	8/5/2011	Primary Sample	8260B	Methyl ethyl ketone	2	µg/L	Primary Result	U	UJ	V	S	26171E
RD-71	8/5/2011	Primary Sample	8260B	Toluene	0.17	µg/L	Primary Result	U	UJ	V	S	26171E
RD-71	8/5/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	0.15	µg/L	Primary Result	U	UJ	V	S	26171E
RD-73	7/28/2011	Primary Sample	8015B	Gasoline Range Organics (C6-C12)	560	µg/L	Primary Result		J	V	S	26062D
RD-73	7/28/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	50	µg/L	Primary Result	J	J	V	TR	26062D
RD-73	7/28/2011	Primary Sample	8260B	1,1-Dichloroethane	18	µg/L	Primary Result	J	J	V	TR	26062D
RD-73	7/28/2011	Primary Sample	8260B	Methylene chloride	32	µg/L	Primary Result	JB	J	V	TR	26062D
RD-78	8/5/2011	Primary Sample	8260B	1,1,1-Trichloroethane	0.16	µg/L	Primary Result	U	UJ	V	S	26171E
RD-78	8/5/2011	Primary Sample	8260B	1,1-Dichloroethene	0.23	µg/L	Primary Result	U	UJ	V	S	26171E
RD-78	8/5/2011	Primary Sample	8260B	1,2-Dichloroethane	0.13	µg/L	Primary Result	U	UJ	V	S	26171E
RD-78	8/5/2011	Primary Sample	8260B	Carbon Tetrachloride	0.19	µg/L	Primary Result	U	UJ	V	S	26171E
RD-78	8/5/2011	Primary Sample	8260B	Chloroform	0.16	µg/L	Primary Result	U	UJ	V	S	26171E
RD-78	8/5/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	0.15	µg/L	Primary Result	U	UJ	V	S	26171E
RD-78	8/5/2011	Primary Sample	8260B	Methyl ethyl ketone	2	µg/L	Primary Result	U	UJ	V	S	26171E
RD-78	8/5/2011	Primary Sample	8260B	Methylene chloride	0.32	µg/L	Primary Result	U	UJ	V	S	26171E
RD-78	8/5/2011	Primary Sample	8260B	o-Xylene	0.19	µg/L	Primary Result	U	UJ	V	S	26171E
RD-78	8/5/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	0.15	µg/L	Primary Result	U	UJ	V	S	26171E
RD-78	8/5/2011	Primary Sample	8260B	Trichloroethene	0.16	µg/L	Primary Result	U	UJ	V	S	26171E
RD-78	8/5/2011	Primary Sample	8260B	Trichlorofluoromethane	0.29	µg/L	Primary Result	U	UJ	V	S	26171E
RD-78	8/5/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	0.42	µg/L	Primary Result	U	UJ	V	S	26171E
RD-78	8/5/2011	Primary Sample	8260B	1,1,2-Trichloroethane	0.27	µg/L	Primary Result	U	UJ	V	S	26171E
RD-78	8/5/2011	Primary Sample	8260B	1,1-Dichloroethane	0.22	µg/L	Primary Result	U	UJ	V	S	26171E
RD-78	8/5/2011	Primary Sample	8260B	Acetone	10	µg/L	Primary Result	J	UJ	V	S, T	26171E
RD-78	8/5/2011	Primary Sample	8260B	Benzene	0.16	µg/L	Primary Result	U	UJ	V	S	26171E
RD-78	8/5/2011	Primary Sample	8260B	Ethylbenzene	0.16	µg/L	Primary Result	U	UJ	V	S	26171E
RD-78	8/5/2011	Primary Sample	8260B	m-Xylene & p-Xylene	0.34	µg/L	Primary Result	U	UJ	V	S	26171E
RD-78	8/5/2011	Primary Sample	8260B	Tetrachloroethene	0.2	µg/L	Primary Result	U	UJ	V	S	26171E
RD-78	8/5/2011	Primary Sample	8260B	Toluene	0.17	µg/L	Primary Result	U	UJ	V	S	26171E
RD-78	8/5/2011	Primary Sample	8260B	Vinyl chloride	0.1	µg/L	Primary Result	U	UJ	V	S	26171E
RD-81	7/12/2011	Primary Sample	8260B	Trichloroethene	0.99	µg/L	Primary Result	J	J	V	TR	26013A
RD-83	7/11/2011	Primary Sample	8260B	Acetone	10	µg/L	Primary Result	J	U	V	T	26013E
RD-83	7/11/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	0.35	µg/L	Primary Result	J	J	V	TR	26013E
RD-85	7/14/2011	Field Duplicate	300.0	Fluoride	0.43	mg/L	Primary Result	J	J	V	TR	25989A

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
RD-85	7/14/2011	Field Duplicate	6020	Antimony, Dissolved	0.000074	mg/L	Primary Result	J	J	V	TR	25989A
RD-85	7/14/2011	Field Duplicate	6020	Arsenic	0.00042	mg/L	Primary Result	J	J	V	TR	25989A
RD-85	7/14/2011	Field Duplicate	6020	Arsenic, Dissolved	0.00041	mg/L	Primary Result	J	J	V	TR	25989A
RD-85	7/14/2011	Field Duplicate	6020	Cadmium	0.00068	mg/L	Primary Result	J	J	V	TR	25989A
RD-85	7/14/2011	Field Duplicate	6020	Cadmium, Dissolved	0.0008	mg/L	Primary Result	J	J	V	TR	25989A
RD-85	7/14/2011	Field Duplicate	6020	Antimony	0.00009	mg/L	Primary Result	J	J	V	TR	25989A
RD-85	7/14/2011	Field Duplicate	6020	Cobalt	0.00013	mg/L	Primary Result	J	J	V	TR	25989A
RD-85	7/14/2011	Field Duplicate	6020	Thallium	0.000038	mg/L	Primary Result	J	J	V	TR	25989A
RD-85	7/14/2011	Field Duplicate	6020	Vanadium	0.00087	mg/L	Primary Result	J	J	V	TR	25989A
RD-85	7/14/2011	Field Duplicate	6020	Vanadium, Dissolved	0.00077	mg/L	Primary Result	J	J	V	TR	25989A
RD-85	7/14/2011	Field Duplicate	6020	Zinc	0.0029	mg/L	Primary Result	J	J	V	TR	25989A
RD-85	7/14/2011	Field Duplicate	8260B	Acetone	4.5	µg/L	Primary Result	J	J	V	L, S, TR	25989A
RD-85	7/14/2011	Field Duplicate	6020	Cobalt, Dissolved	0.00011	mg/L	Primary Result	J	J	V	TR	25989A
RD-85	7/14/2011	Field Duplicate	6020	Copper	0.00069	mg/L	Primary Result	J	J	V	TR	25989A
RD-85	7/14/2011	Field Duplicate	6020	Copper, Dissolved	0.00058	mg/L	Primary Result	J	J	V	TR	25989A
RD-85	7/14/2011	Field Duplicate	6020	Thallium, Dissolved	0.000035	mg/L	Primary Result	J	J	V	TR	25989A
RD-85	7/14/2011	Field Duplicate	6020	Zinc, Dissolved	0.0029	mg/L	Primary Result	J	J	V	TR	25989A
RD-85	7/14/2011	Field Duplicate	8260B SIM	1,4-Dioxane	0.87	µg/L	Primary Result	J	J	V	TR	25989A
RD-85	7/14/2011	Field Duplicate	900.0	Gross Alpha, Dissolved	9.922	pCi/L	Primary Result		J	V	L	26090D
RD-85	7/14/2011	Field Duplicate	908.0	Uranium-233/234, Particulate	0.143	pCi/L	Primary Result	J	J	V	TR	26090D
RD-85	7/14/2011	Field Duplicate	900.0	Gross alpha, Particulate	-0.431	pCi/L	Primary Result	U	UJ	V	L	26090D
RD-85	7/14/2011	Field Duplicate	901.1	Barium-133, Particulate	2.167	pCi/L	Primary Result	J	J	V	TR	26090D
RD-85	7/14/2011	Primary Sample	6020	Antimony	0.000082	mg/L	Primary Result	J	J	V	TR	25989A
RD-85	7/14/2011	Primary Sample	6020	Antimony, Dissolved	0.000088	mg/L	Primary Result	J	J	V	TR	25989A
RD-85	7/14/2011	Primary Sample	300.0	Fluoride	0.43	mg/L	Primary Result	J	J	V	TR	25989A
RD-85	7/14/2011	Primary Sample	6020	Arsenic	0.00043	mg/L	Primary Result	J	J	V	TR	25989A
RD-85	7/14/2011	Primary Sample	6020	Arsenic, Dissolved	0.00042	mg/L	Primary Result	J	J	V	TR	25989A
RD-85	7/14/2011	Primary Sample	6020	Cadmium	0.00079	mg/L	Primary Result	J	J	V	TR	25989A
RD-85	7/14/2011	Primary Sample	6020	Cadmium, Dissolved	0.00081	mg/L	Primary Result	J	J	V	TR	25989A
RD-85	7/14/2011	Primary Sample	6020	Vanadium	0.00087	mg/L	Primary Result	J	J	V	TR	25989A
RD-85	7/14/2011	Primary Sample	8260B	Acetone	2.3	µg/L	Primary Result	J	J	V	L, S, TR	25989A
RD-85	7/14/2011	Primary Sample	6020	Cobalt	0.00013	mg/L	Primary Result	J	J	V	TR	25989A
RD-85	7/14/2011	Primary Sample	6020	Cobalt, Dissolved	0.00011	mg/L	Primary Result	J	J	V	TR	25989A
RD-85	7/14/2011	Primary Sample	6020	Thallium	0.000037	mg/L	Primary Result	J	J	V	TR	25989A
RD-85	7/14/2011	Primary Sample	6020	Thallium, Dissolved	0.000036	mg/L	Primary Result	J	J	V	TR	25989A
RD-85	7/14/2011	Primary Sample	6020	Vanadium, Dissolved	0.0008	mg/L	Primary Result	J	J	V	TR	25989A
RD-85	7/14/2011	Primary Sample	6020	Zinc	0.0026	mg/L	Primary Result	J	J	V	TR	25989A
RD-85	7/14/2011	Primary Sample	6020	Zinc, Dissolved	0.0031	mg/L	Primary Result	J	J	V	TR	25989A
RD-85	7/14/2011	Primary Sample	900.0	Gross Alpha, Dissolved	9.813	pCi/L	Primary Result		J	V	L	26090D
RD-85	7/14/2011	Primary Sample	900.0	Gross alpha, Particulate	-0.691	pCi/L	Primary Result	U	UJ	V	L	26090D
RD-85	7/14/2011	Primary Sample	908.0	Uranium-233/234, Dissolved	5.852	pCi/L	Primary Result		J	V	*VIII	26090D
RD-85	7/14/2011	Primary Sample	908.0	Uranium-233/234, Particulate	0.073	pCi/L	Primary Result	U	UJ	V	*VIII	26090D
RD-85	7/14/2011	Primary Sample	908.0	Uranium-235, Dissolved	0.197	pCi/L	Primary Result	J	J	V	*VIII	26090D
RD-85	7/14/2011	Primary Sample	908.0	Uranium-235, Particulate	-0.013	pCi/L	Primary Result	U	UJ	V	*VIII	26090D

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
RD-85	7/14/2011	Primary Sample	908.0	Uranium, Dissolved	4.709	pCi/L	Primary Result		J	V	*VIII	26090D
RD-85	7/14/2011	Primary Sample	908.0	Uranium, Particulate	0.053	pCi/L	Primary Result	U	UJ	V	*VIII	26090D
RD-86	7/13/2011	Primary Sample	6020	Arsenic	0.00093	mg/L	Primary Result	J	J	V	TR	25950E
RD-86	7/13/2011	Primary Sample	6020	Cadmium	0.00016	mg/L	Primary Result	J	J	V	TR	25950E
RD-86	7/13/2011	Primary Sample	300.0	Fluoride	0.4	mg/L	Primary Result	J	J	V	TR	25950E
RD-86	7/13/2011	Primary Sample	6020	Arsenic, Dissolved	0.00022	mg/L	Primary Result	J	J	V	TR	25950E
RD-86	7/13/2011	Primary Sample	6020	Cadmium, Dissolved	0.00012	mg/L	Primary Result	J	J	V	TR	25950E
RD-86	7/13/2011	Primary Sample	6020	Cobalt	0.00026	mg/L	Primary Result	J	J	V	TR	25950E
RD-86	7/13/2011	Primary Sample	6020	Cobalt, Dissolved	0.00025	mg/L	Primary Result	J	J	V	TR	25950E
RD-86	7/13/2011	Primary Sample	6020	Copper	0.00067	mg/L	Primary Result	J	J	V	TR	25950E
RD-86	7/13/2011	Primary Sample	6020	Thallium	0.000052	mg/L	Primary Result	J	J	V	TR	25950E
RD-86	7/13/2011	Primary Sample	6020	Thallium, Dissolved	0.000066	mg/L	Primary Result	J	J	V	TR	25950E
RD-86	7/13/2011	Primary Sample	6020	Zinc	0.0047	mg/L	Primary Result	J	J	V	TR	25950E
RD-86	7/13/2011	Primary Sample	6020	Zinc, Dissolved	0.0052	mg/L	Primary Result	J	J	V	TR	25950E
RD-86	7/13/2011	Primary Sample	8260B	Methylene chloride	5	µg/L	Primary Result	J	U	V	T	25950E
RD-86	7/13/2011	Primary Sample	6020	Silver, Dissolved	0.000019	mg/L	Primary Result	J	J	V	TR	25950E
RD-86	7/13/2011	Primary Sample	6020	Vanadium	0.0013	mg/L	Primary Result	J	J	V	TR	25950E
RD-86	7/13/2011	Primary Sample	6020	Vanadium, Dissolved	0.00054	mg/L	Primary Result	J	J	V	TR	25950E
RD-86	7/13/2011	Primary Sample	8260B	Acetone	2.4	µg/L	Primary Result	J	J	V	TR	25950E
RD-86	7/13/2011	Primary Sample	901.1	Potassium-40, Particulate	12.72	pCi/L	Primary Result	J	J	V	TR	26090C
RD-86	7/13/2011	Primary Sample	908.0	Uranium-233/234, Particulate	0.157	pCi/L	Primary Result	J	J	V	TR	26090C
RD-96	7/13/2011	Primary Sample	8260B	Methylene chloride	5	µg/L	Primary Result	J	U	V	T	25950E
RD-96	7/13/2011	Primary Sample	8260B	Ethylbenzene	0.76	µg/L	Primary Result	J	J	V	TR	25950E
RD-96	7/13/2011	Primary Sample	908.0	Uranium, Dissolved	4.653	pCi/L	Primary Result		J	V	*VIII	26090C
RD-96	7/13/2011	Primary Sample	908.0	Uranium-233/234, Dissolved	5.122	pCi/L	Primary Result		J	V	*VIII	26090C
RD-96	7/13/2011	Primary Sample	908.0	Uranium-235, Dissolved	0.574	pCi/L	Primary Result		J	V	*VIII	26090C
RD-98	7/12/2011	Primary Sample	900.0	Gross alpha, Particulate	0.744	pCi/L	Primary Result		J	V	L	26090B
RD-98	7/12/2011	Primary Sample	900.0	Gross Alpha, Dissolved	7.609	pCi/L	Primary Result		J	V	L	26090B
RD-98	7/12/2011	Primary Sample	901.1	Sodium-22, Particulate	0.925	pCi/L	Primary Result	J	J	V	TR	26090B
RD-98	7/12/2011	Primary Sample	908.0	Uranium-235, Dissolved	0.256	pCi/L	Primary Result	J	J	V	TR	26090B
RS-08	7/29/2011	Primary Sample	300.0	Fluoride	0.32	mg/L	Primary Result	J	J	V	TR	26090H
RS-08	7/29/2011	Primary Sample	8015B	Diesel Range Organics (C21-C30)	0.093	mg/L	Primary Result	J	J	V	TR	26090H
RS-08	7/29/2011	Primary Sample	8015B	Diesel Range Organics (C8-C30)	0.17	mg/L	Primary Result	J	J	V	TR	26090H
RS-08	7/29/2011	Primary Sample	1625M	n-Nitrosodimethylamine	0.005	µg/L	Lab Repeat Analysis	UHTV	UJ	V	H	26090H
RS-08	7/29/2011	Primary Sample	350.1	Ammonia-N	0.13	mg/L	Primary Result	JB	U	V	B	26090H
RS-08	7/29/2011	Primary Sample	8015B	Kerosene Range (C15-C20)	0.06	mg/L	Primary Result	J	J	V	TR	26090H
RS-08	7/29/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	7.2	µg/L	Primary Result		J	V	S	26090H
RS-08	7/29/2011	Primary Sample	8260B	Vinyl chloride	0.97	µg/L	Primary Result	J	J	V	S, TR	26090H
RS-08	7/29/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	0.7	µg/L	Primary Result	J	J	V	S, TR	26090H
RS-08	7/29/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26041F
RS-08	7/29/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	11	µg/L	Primary Result	JB	U	V	B	26090H
RS-18	7/14/2011	Primary Sample	6020	Antimony	0.00012	mg/L	Primary Result	J	J	V	TR	25989A
RS-18	7/14/2011	Primary Sample	6020	Antimony, Dissolved	0.00014	mg/L	Primary Result	J	J	V	TR	25989A
RS-18	7/14/2011	Primary Sample	6020	Silver, Dissolved	0.000015	mg/L	Primary Result	J	J	V	TR	25989A

TABLE B-3
SUMMARY OF THIRD QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
RS-18	7/14/2011	Primary Sample	6020	Thallium	0.000029	mg/L	Primary Result	J	J	V	TR	25989A
RS-18	7/14/2011	Primary Sample	6020	Thallium, Dissolved	0.000042	mg/L	Primary Result	J	J	V	TR	25989A
RS-18	7/14/2011	Primary Sample	6020	Arsenic	0.00067	mg/L	Primary Result	J	J	V	TR	25989A
RS-18	7/14/2011	Primary Sample	6020	Arsenic, Dissolved	0.00072	mg/L	Primary Result	J	J	V	TR	25989A
RS-18	7/14/2011	Primary Sample	6020	Cadmium	0.000077	mg/L	Primary Result	J	J	V	TR	25989A
RS-18	7/14/2011	Primary Sample	6020	Cadmium, Dissolved	0.0001	mg/L	Primary Result	J	J	V	TR	25989A
RS-18	7/14/2011	Primary Sample	6020	Copper	0.0006	mg/L	Primary Result	J	J	V	TR	25989A
RS-18	7/14/2011	Primary Sample	6020	Copper, Dissolved	0.00067	mg/L	Primary Result	J	J	V	TR	25989A
RS-18	7/14/2011	Primary Sample	6020	Selenium	0.0033	mg/L	Primary Result	J	J	V	TR	25989A
RS-18	7/14/2011	Primary Sample	6020	Selenium, Dissolved	0.0033	mg/L	Primary Result	J	J	V	TR	25989A
RS-18	7/14/2011	Primary Sample	6020	Vanadium	0.002	mg/L	Primary Result	J	J	V	TR	25989A
RS-18	7/14/2011	Primary Sample	8260B	1,1,1-Trichloroethane	18	µg/L	Primary Result		J	V	S	25989A
RS-18	7/14/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	4.9	µg/L	Primary Result	J	J	V	S, TR	25989A
RS-18	7/14/2011	Primary Sample	8260B	Chloroform	2.9	µg/L	Primary Result		UJ	V	F, S	25989A
RS-18	7/14/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	12	µg/L	Primary Result		J	V	S	25989A
RS-18	7/14/2011	Primary Sample	6020	Vanadium, Dissolved	0.0019	mg/L	Primary Result	J	J	V	TR	25989A
RS-18	7/14/2011	Primary Sample	8260B	1,1,2-Trichloroethane	0.71	µg/L	Primary Result	J	J	V	S, TR	25989A
RS-18	7/14/2011	Primary Sample	8260B	1,1-Dichloroethane	52	µg/L	Primary Result		J	V	S	25989A
RS-18	7/14/2011	Primary Sample	8260B	1,1-Dichloroethene	120	µg/L	Primary Result		J	V	S	25989A
RS-18	7/14/2011	Primary Sample	8260B	Benzene	0.77	µg/L	Primary Result	J	J	V	S, TR	25989A
RS-18	7/14/2011	Primary Sample	8260B	Tetrachloroethene	0.98	µg/L	Primary Result	J	J	V	S, TR	25989A
RS-18	7/14/2011	Primary Sample	8260B	Trichloroethene	890	µg/L	Primary Result		J	V	S	25989A
RS-18	7/14/2011	Primary Sample	8260B	Trichlorofluoromethane	1.7	µg/L	Primary Result	J	J	V	S, TR	25989A
RS-18	7/14/2011	Primary Sample	900.0	Gross beta, Particulate	4.001	pCi/L	Primary Result	J	J	V	TR	26090D
RS-18	7/14/2011	Primary Sample	900.0	Gross Alpha, Dissolved	14.036	pCi/L	Primary Result		J	V	L	26090D
RS-18	7/14/2011	Primary Sample	900.0	Gross alpha, Particulate	0.995	pCi/L	Primary Result	U	UJ	V	L	26090D
RS-18	7/14/2011	Primary Sample	908.0	Uranium-233/234, Particulate	0.207	pCi/L	Primary Result	J	J	V	*VIII	26090D
RS-18	7/14/2011	Primary Sample	908.0	Uranium-235, Dissolved	0.748	pCi/L	Primary Result		J	V	*VIII	26090D
RS-18	7/14/2011	Primary Sample	908.0	Uranium-235, Particulate	-0.005	pCi/L	Primary Result	U	UJ	V	*VIII	26090D
RS-18	7/14/2011	Primary Sample	908.0	Uranium-233/234, Dissolved	9.062	pCi/L	Primary Result		J	V	*VIII	26090D
RS-18	7/14/2011	Primary Sample	908.0	Uranium, Dissolved	8.284	pCi/L	Primary Result		J	V	*VIII	26090D
RS-18	7/14/2011	Primary Sample	908.0	Uranium, Particulate	0.116	pCi/L	Primary Result	U	UJ	V	*VIII	26090D
RS-32	7/18/2011	Primary Sample	8015B	Gasoline Range Organics (C6-C12)	13	µg/L	Primary Result	J	J	V	TR	26013C
RS-32	7/18/2011	Primary Sample	8260B	Acetone	10	µg/L	Primary Result	J	UJ	V	B, L, T	26013C
RS-32	7/18/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	0.36	µg/L	Primary Result	J	J	V	TR	26013C
RS-33	7/26/2011	Primary Sample	300.0	Fluoride	0.34	mg/L	Primary Result	J	J	V	TR	26041C
RS-33	7/26/2011	Primary Sample	350.1	Ammonia-N	0.08	mg/L	Primary Result	JB	U	V	B	26041C
RS-33	7/26/2011	Primary Sample	8260B	Acetone	86	µg/L	Primary Result	B	J	V	Q	26041C
RS-33	7/26/2011	Primary Sample	8260B	Vinyl chloride	0.71	µg/L	Primary Result	J	J	V	TR	26041C
RS-33	7/26/2011	Primary Sample	8260B SIM	1,4-Dioxane	1.4	µg/L	Primary Result	J	J	V	TR	26041C
RS-33	7/26/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	0.32	µg/L	Primary Result	J	J	V	TR	26041C
RS-33	7/26/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26034E
RS-33	7/26/2011	Split Sample	8270C	4-Nitroquinoline-1-oxide	2.8	µg/L	Primary Result	U,C-2	UJ	IV	C	26111A
RS-33	7/26/2011	Split Sample	8270C	o-Toluidine	2.4	µg/L	Primary Result	U	UJ	IV	C	26111A

TABLE B-3
SUMMARY OF THIRD QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
RS-33	7/26/2011	Split Sample	8270C	p-Phenylenediamine	24	µg/L	Primary Result	U,C-2	UJ	IV	C	26111A
RS-33	7/26/2011	Split Sample	8270C	alpha, alpha-Dimethylphenethylamine	38	µg/L	Primary Result	U,C-2	UJ	IV	C	26111A
RS-34	7/21/2011	Field Duplicate	8290	Octachlorodibenzo-p-dioxin	16	pg/L	Primary Result	JB	J	IV	TR	26040B
RS-34	7/21/2011	Field Duplicate	8290	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	1.8	pg/L	Primary Result	JQC	J	IV	TR	26040B
RS-34	7/21/2011	Primary Sample	300.0	Fluoride	0.43	mg/L	Primary Result	J	J	V	TR	26041B
RS-34	7/21/2011	Primary Sample	8270C	Nitrobenzene	0.78	µg/L	Primary Result	UHTV	UJ	V	H	26041B
RS-34	7/21/2011	Primary Sample	8270C	1,3-Dinitrobenzene	1.9	µg/L	Primary Result	UHTV	UJ	V	H	26041B
RS-34	7/21/2011	Primary Sample	8290	Octachlorodibenzo-p-dioxin	17	pg/L	Primary Result	JB	J	IV	TR	26040B
RS-34	7/21/2011	Primary Sample	8290	Octachlorodibenzofuran	3.1	pg/L	Primary Result	JQC	J	IV	TR	26040B
RS-34	7/21/2011	Split Sample	8290	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	1.3	pg/L	Primary Result	J,Q,B	U	V	B	260900
RS-34	7/21/2011	Split Sample	8290	1,2,3,4,7,8-Hexachlorodibenzofuran	0.63	pg/L	Primary Result	J,Q	J	V	TR	260900
RS-34	7/21/2011	Split Sample	8290	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	0.76	pg/L	Primary Result	J,Q	J	V	TR	260900
RS-34	7/21/2011	Split Sample	8290	1,2,3,6,7,8-Hexachlorodibenzofuran	0.69	pg/L	Primary Result	J	J	V	TR	260900
RS-34	7/21/2011	Split Sample	8290	1,2,3,7,8-Pentachlorodibenzofuran	0.78	pg/L	Primary Result	J	J	V	TR	260900
RS-34	7/21/2011	Split Sample	8290	2,3,4,6,7,8-Hexachlorodibenzofuran	0.58	pg/L	Primary Result	J	J	V	TR	260900
RS-34	7/21/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26034B
RS-34	7/21/2011	Split Sample	8290	1,2,3,4,6,7,8-Heptachlorodibenzofuran	1	pg/L	Primary Result	J,Q,B	U	V	B	260900
RS-34	7/21/2011	Split Sample	8290	1,2,3,4,7,8,9-Heptachlorodibenzofuran	0.6	pg/L	Primary Result	J,Q	J	V	TR	260900
RS-34	7/21/2011	Split Sample	8290	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	0.48	pg/L	Primary Result	J,Q	J	V	TR	260900
RS-34	7/21/2011	Split Sample	8290	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	0.61	pg/L	Primary Result	J	J	V	TR	260900
RS-34	7/21/2011	Split Sample	8290	1,2,3,7,8,9-Hexachlorodibenzofuran	0.44	pg/L	Primary Result	J,Q	J	V	TR	260900
RS-34	7/21/2011	Split Sample	8290	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	0.73	pg/L	Primary Result	J	J	V	TR	260900
RS-34	7/21/2011	Split Sample	8290	2,3,4,7,8-Pentachlorodibenzofuran	0.42	pg/L	Primary Result	J,Q	J	V	TR	260900
RS-34	7/21/2011	Split Sample	8290	Hexachlorodibenzofurans	2.3	pg/L	Primary Result	J,Q	J	V	TR	260900
RS-34	7/21/2011	Split Sample	8290	Octachlorodibenzo-p-dioxin	3.9	pg/L	Primary Result	J,B	U	V	B, F	260900
RS-34	7/21/2011	Split Sample	8290	Octachlorodibenzofuran	0.99	pg/L	Primary Result	J,Q	J	V	TR	260900
RS-34	7/21/2011	Split Sample	8290	Heptachlorodibenzo-p-dioxins	2.4	pg/L	Primary Result	J,Q,B	U	V	B	260900
RS-34	7/21/2011	Split Sample	8290	Heptachlorodibenzofurans	1.9	pg/L	Primary Result	J,Q,B	U	V	B	260900
RS-34	7/21/2011	Split Sample	8290	Hexachlorodibenzo-p-dioxins	1.8	pg/L	Primary Result	J,Q	J	V	TR	260900
RS-34	7/21/2011	Split Sample	8290	Pentachlorodibenzo-p-dioxins	0.73	pg/L	Primary Result	J	J	V	TR	260900
RS-34	7/21/2011	Split Sample	8290	Pentachlorodibenzofurans	1.2	pg/L	Primary Result	J,Q	J	V	TR	260900
SH-02	7/20/2011	Primary Sample	350.1	Ammonia-N	0.069	mg/L	Primary Result	JB	U	V	B	26041A
SH-02	7/20/2011	Primary Sample	300.0	Fluoride	1.6	mg/L	Primary Result	J	J	V	TR	26041A
SH-02	7/20/2011	Primary Sample	8260B	1,1,1-Trichloroethane	0.86	µg/L	Primary Result	J	J	V	S, TR	26041A
SH-02	7/20/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	7	µg/L	Primary Result	J	J	V	S, TR	26041A
SH-02	7/20/2011	Primary Sample	8260B	1,2-Dichloroethane	1.9	µg/L	Primary Result	J	J	V	S	26041A
SH-02	7/20/2011	Primary Sample	8260B	Chloroform	9.1	µg/L	Primary Result	J	J	V	S	26041A
SH-02	7/20/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	8.8	µg/L	Primary Result	J	J	V	S	26041A
SH-02	7/20/2011	Primary Sample	8260B	Methylene chloride	10	µg/L	Primary Result	J	UJ	V	S, T	26041A
SH-02	7/20/2011	Primary Sample	8260B	Tetrachloroethene	1.4	µg/L	Primary Result	J	J	V	S, TR	26041A
SH-02	7/20/2011	Primary Sample	8260B	Trichloroethene	44	µg/L	Primary Result	J	J	V	S	26041A
SH-02	7/20/2011	Primary Sample	8260B	1,1-Dichloroethane	10	µg/L	Primary Result	J	J	V	S	26041A
SH-02	7/20/2011	Primary Sample	8260B	1,1-Dichloroethene	4.5	µg/L	Primary Result	J	J	V	S	26041A
SH-02	7/20/2011	Primary Sample	8260B	Acetone	380	µg/L	Primary Result	J	J	V	S	26041A

TABLE B-3
SUMMARY OF THIRD QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
SH-02	7/20/2011	Primary Sample	8260B	Carbon Tetrachloride	4.6	µg/L	Primary Result		J	V	S	26041A
SH-02	7/20/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B, F	26034A
SH-02	7/20/2011	Primary Sample	9040B	pH	1.45	pH Units	Primary Result	HTV	J	V	H	26041A
SH-04	7/20/2011	Primary Sample	8260B	1,1,1-Trichloroethane	1.4	µg/L	Primary Result	J	J	V	TR	26041A
SH-04	7/20/2011	Primary Sample	350.1	Ammonia-N	0.066	mg/L	Primary Result	JB	U	V	B	26041A
SH-04	7/20/2011	Primary Sample	8260B	Methylene chloride	10	µg/L	Primary Result	J	U	V	T	26041A
SH-04	7/20/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	10	µg/L	Primary Result	JB	U	IV	B	26041A
SH-04	7/20/2011	Primary Sample	8270C	Diethyl phthalate	0.46	µg/L	Primary Result	J	J	IV	TR	26041A
SH-04	7/20/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B, F	26034A
SH-04	7/20/2011	Primary Sample	9040B	pH	6.85	pH Units	Primary Result	HTV	J	V	H	26041A
SH-07	7/20/2011	Primary Sample	300.0	Fluoride	0.29	mg/L	Primary Result	J	J	V	TR	26041A
SH-07	7/20/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	1.3	µg/L	Primary Result	J	J	V	TR	26041A
SH-07	7/20/2011	Primary Sample	8260B	1,1-Dichloroethene	0.27	µg/L	Primary Result	J	J	V	TR	26041A
SH-07	7/20/2011	Primary Sample	8260B	Chloroform	1	µg/L	Primary Result	J	U	V	F	26041A
SH-07	7/20/2011	Primary Sample	8260B SIM	1,4-Dioxane	1.3	µg/L	Primary Result	J	J	V	TR	26041A
SH-11	7/20/2011	Field Duplicate	8270C	bis(2-Ethylhexyl) phthalate	0.59	µg/L	Primary Result	JB	J	IV	TR	26041A
SH-11	7/20/2011	Primary Sample	350.1	Ammonia-N	0.13	mg/L	Primary Result	JB	U	V	B	26041A
SH-11	7/20/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	0.23	µg/L	Primary Result	J	J	V	TR	26041A
SH-11	7/20/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B, F	26034A
SH-11	7/20/2011	Primary Sample	9040B	pH	6.86	pH Units	Primary Result	HTV	J	V	H	26041A
WS-09A	8/11/2011	Primary Sample	300.0	Fluoride	0.25	mg/L	Primary Result	J	J	V	TR	26136G
WS-09A	8/11/2011	Primary Sample	350.1	Ammonia-N	0.1	mg/L	Primary Result	J	J	V	TR	26136G
WS-09A	8/11/2011	Primary Sample	8260B	1,1-Dichloroethene	0.41	µg/L	Primary Result	J	J	V	TR	26136G
WS-09A	8/11/2011	Primary Sample	8260B	Vinyl chloride	0.53	µg/L	Primary Result	J	J	V	TR	26136G
WS-09A	8/11/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	26090N
WS-04A	7/18/2011	Primary Sample	350.1	Ammonia-N	0.16	mg/L	Primary Result	J	J	V	TR	26013C
WS-04A	7/18/2011	Primary Sample	8260B	Acetone	10	µg/L	Primary Result	JB	UJ	V	B, S, T	26013C
WS-04A	7/18/2011	Primary Sample	8260B SIM	1,4-Dioxane	0.82	µg/L	Primary Result	J	J	V	TR	26013C
WS-04A	7/18/2011	Primary Sample	8315	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	25976B

TABLE B-3
SUMMARY OF THIRD QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

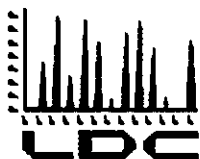
REASON CODES:

B - Presumed contamination as indicated by the method blank results.
 C - Calibration %RSD or %D was noncompliant.
 D - The analysis with this flag should not be used; a more technically sound analysis is available
 E - LCS/LCSD RPD was high.
 F - Presumed contamination as indicated by the field blank or equipment rinse blank results.
 H - Holding time was exceeded.
 L - LCS and/or LCSD %R was not within control limits.
 Q - MS and/or MSD recovery was poor or RPD was high.
 R - Calibration RRF was < 0.05.
 S - Surrogate recovery was outside QC limits.
 T - Presumed contamination as indicated by the trip blank results.
 TR - Trace value; result was reported below the RL.
 IX - Second column confirmation RPD exceeded limit.
 XVI - Field duplicate RPD exceeded control limit
 XVII, XVIII - Tracer %R was not within control limits
 XI - Split Sample RPF exceeded control limit

NOTES AND ABBREVIATIONS

%R - percent recovery
 µg/L - micrograms per liter
 mg/L - milligrams per liter
 pg/L - picograms per liter
 pCi/L - picocuries per liter
 B - Compound was found in the blank and in the sample.
 C-2 - Calibration verification recovery was below method control limit
 C - Calibration verification recovery was above method control limit
 HTV - holding time violation
 L - LCS and/or LCSD %R was above the acceptance limits
 LCS/LCSD - laboratory control spike/laboratory control spike duplicate
 M7 - The MS and/or MSD were above the acceptance limits
 MS/MSD - matrix spike/matrix spike duplicate
 Q - estimated maximum possible concentration
 QC - quality control
 RL - reporting limit
 RPD - relative percent difference
 RRF - relative response factor
 SIM - selective ion monitoring
 J - Result is estimated
 R - Result is rejected
 U - Not detected above the minimum detectable activity (MDA), method detection limit (MDL), or reporting limit (RL)
 UJ - The result is not detected; however, the RL/MDL is estimated.

ATTACHMENT B-1
DATA VALIDATION REPORTS



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

August 1, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. This SDG were received on July 19, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25863:

SDG #

Fraction

280-17583-1

Volatiles, 1,4-Dioxane, N-Nitrosodimethylamine

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: June 30, 2011

LDC Report Date: July 29, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-17583-1

Sample Identification

RD-40_063011_01

TB_RD-40_063011

RD-42_063011_01

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-dioxane was found in the method blanks.

Sample TB_RD-40_063011 was identified as a trip blank. No 1,4-dioxane was found in this blank with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
TB_RD-40_063011	6/30/11	1,4-Dioxane	0.64 ug/L	RD-40_063011_01 RD-42_063011_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
RD-42_063011_01	1,4-Dioxane	1.3 ug/L	2.0U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-17583-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-17583-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-17583-1	RD-40_063011_01 TB_RD-40_063011 RD-42_063011_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-17583-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-17583-1**

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-17583-1	RD-42_063011_01	1,4-Dioxane	2.0U ug/L	A	T

LDC #: 25863A1b
 SDG #: 280-17583-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 7/28/11
 Page: 1 of 1
 Reviewer: JLB
 2nd Reviewer: L

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 6/30/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	L	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	ICS / D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	TB = 2

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

water

1	RD-40_063011_01	11	MB 280-75395/24	21	31	
2	TB_RD-40_063011	12		22	32	
3	RD-42_063011_01	13		23	33	
4		14		24	34	
5		15		25	35	
6		16		26	36	
7		17		27	37	
8		18		28	38	
9		19		29	39	
10		20		30	40	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: June 30, 2011

LDC Report Date: July 29, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-17583-1

Sample Identification

RD-40_063011_01
TB_RD-40_063011
RD-42_063011_01
RD-40_063011_01MS
RD-40_063011_01MSD

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Sample TB_RD-40_063011 was identified as a trip blank. No volatile contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-17583-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-17583-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-17583-1	RD-40_063011_01 TB_RD-40_063011 RD-42_063011_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-17583-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-17583-1

No Sample Data Qualified in this SDG

LDC #: 25863A1a
 SDG #: 280-17583-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 7/28/11
 Page: 1 of 1
 Reviewer: NG
 2nd Reviewer: [Signature]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>6/20/11</u>
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	<u>LCS</u>
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	<u>ND</u>	<u>TB = 2</u>

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

1	RD-40_063011_01	11	<u>MB 280-76520/6</u>	21		31
2	TB_RD-40_063011	12		22		32
3	RD-42_063011_01	13		23		33
4	RD-40_063011_01MS	14		24		34
5	RD-40_063011_01MSD	15		25		35
6		16		26		36
7		17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: June 30, 2011

LDC Report Date: July 29, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-17583-1

Sample Identification

RD-40_063011_01

RD-42_063011_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625C for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-nitrosodimethylamine was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-17583-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-17583-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-17583-1	RD-40_063011_01 RD-42_063011_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary – SDG 280-17583-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 2nd Qtr, 2011
 N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-17583-1**

No Sample Data Qualified in this SDG

LDC #: 25863A2b

VALIDATION COMPLETENESS WORKSHEET

SDG #: 280-17583-1

Level V

Laboratory: Test America, Inc.

Date: 7/22/11

Page: 1 of 1

Reviewer: JVG

2nd Reviewer: [Signature]

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 6/30/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LC8/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

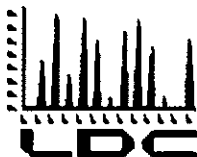
ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	RD-40_063011_01	11	MB 280-75203/1-A	21		31
2	RD-42_063011_01	12		22		32
3		13		23		33
4		14		24		34
5		15		25		35
6		16		26		36
7		17		27		37
8		18		28		38
9		19		29		39
10		20		30		40



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

August 22, 2011

SUBJECT: Boeing SSFL GW 3rd Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on August 1, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25950:

<u>SDG #</u>	<u>Fraction</u>
280-17900-1/ H1G130434	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane,
280-17903-1, 280-17954-1	Semivolatiles, N-Nitrosodimethylamine, Metals,
280-17964-1	Wet Chemistry, TPH as Extractables,
280-18010-1/ IUG1432	Dioxins/Dibenzofurans, Formaldehyde, Hydrazine,
280-18016-1, 280-18078-2	Perchlorate

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011

Collection Date: July 11, 2011

LDC Report Date: August 11, 2011

Matrix: Water

Parameters: Dioxins/Dibenzofurans

Validation Level: EPA Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-17900-1/H1G130434

Sample Identification

PZ-139_071111_01
EB_PZ-139_071111A

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Routine Calibration (Continuing)

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
1199047-MB	7/18/11	OCDD	6.4 pg/L	All samples in SDG 280-17900-1/H1G130434

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-139_071111_01	OCDD	5.3 pg/L	5.3U pg/L
EB_PZ-139_071111A	OCDD	4.9 pg/L	4.9U pg/L

Sample EB_PZ-139_071111A was identified as an equipment blank. No polychlorinated dioxin/dibenzofuran contaminants were found with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-139_071111A	7/11/11	OCDD	4.9 pg/L	PZ-139_071111_01

Sample FB_071211_19 (from SDG 280-17964-1) was identified as a field blank. No polychlorinated dioxin/dibenzofuran contaminants were found.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-139_071111_01	OCDD	5.3 pg/L	5.3U pg/L

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

Internal standards data were not reviewed for Level V.

X. Target Compound Identifications

Raw data were not reviewed for this SDG.

XI. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-17900-1/H1G130434	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XII. System Performance

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 3rd Qtr, 2011
 Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-17900-1/H1G130434**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-17900-1/H1G130434	PZ-139_071111_01 EB_PZ-139_071111A	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

**Boeing SSFL GW 3rd Qtr, 2011
 Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-17900-1/H1G130434**

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-17900-1/H1G130434	PZ-139_071111_01	OCDD	5.3U pg/L	A	B
280-17900-1/H1G130434	EB_PZ-139_071111A	OCDD	4.9U pg/L	A	B

**Boeing SSFL GW 3rd Qtr, 2011
 Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-17900-1/H1G130434**

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-17900-1/H1G130434	PZ-139_071111_01	OCDD	5.3U pg/L	A	F

LDC #: 25950A21

VALIDATION COMPLETENESS WORKSHEET

Date: 8/10/11

SDG #: 280-17900-1/H1G130434

Level V

Page: 1 of 1

Laboratory: Test America Inc.

Reviewer: JVC

2nd Reviewer: K

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/11/11
II.	HRGC/HRMS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Routine calibration/ICV	N	
V.	Blanks	SW	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	A	LCS 10
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	N	
X.	Target compound identifications	N	
XI.	Compound quantitation and CRQLs	N	
XII.	System performance	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	SW	EB = 2 FB = FB_071211-19 (280-17964-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: *water*

1	PZ-139_071111_01	11	1199047-MB	21		31	
2	EB PZ-139_071111A	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

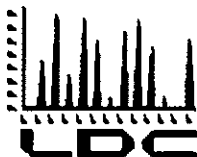
Notes: _____

VALIDATION FINDINGS WORKSHEET

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

A. 2,3,7,8-TCDD	F. 1,2,3,4,6,7,8-HpCDD	K. 1,2,3,4,7,8-HxCDF	P. 1,2,3,4,7,8,9-HpCDF	U. Total HpCDD
B. 1,2,3,7,8-PeCDD	G. OCDD	L. 1,2,3,6,7,8-HxCDF	Q. OCDF	V. Total TCDF
C. 1,2,3,4,7,8-HxCDD	H. 2,3,7,8-TCDF	M. 2,3,4,6,7,8-HxCDF	R. Total TCDD	W. Total PeCDF
D. 1,2,3,6,7,8-HxCDD	I. 1,2,3,7,8-PeCDF	N. 1,2,3,7,8,9-HxCDF	S. Total PeCDD	X. Total HxCDF
E. 1,2,3,7,8,9-HxCDD	J. 2,3,4,7,8-PeCDF	O. 1,2,3,4,6,7,8-HpCDF	T. Total HxCDD	Y. Total HpCDF

Notes:



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

August 22, 2011

SUBJECT: Boeing SSFL GW 3rd Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on August 1, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25950:

<u>SDG #</u>	<u>Fraction</u>
280-17900-1/ H1G130434 280-17903-1, 280-17954-1 280-17964-1	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, N-Nitrosodimethylamine, Metals, Wet Chemistry, TPH as Extractables,
280-18010-1/ IUG1432 280-18016-1, 280-18078-2	Dioxins/Dibenzofurans, Formaldehyde, Hydrazine, Perchlorate

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011
Collection Date: July 11, 2011
LDC Report Date: August 11, 2011
Matrix: Water
Parameters: Formaldehyde
Validation Level: Level V
Laboratory: TestAmerica, Inc./Lancaster Laboratories
Sample Delivery Group (SDG): 280-17903-1

Sample Identification

RD-68B_071111_01
RD-68A_071111_01
PZ-139_071111_01
EB_PZ-139_071111A

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
MB240-8206/5-A	7/13/11	Formaldehyde	0.0184 mg/L	All samples in SDG 280-17903-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
RD-68B_071111_01	Formaldehyde	0.018 mg/L	0.050U mg/L
RD-68A_071111_01	Formaldehyde	0.014 mg/L	0.050U mg/L
PZ-139_071111_01	Formaldehyde	0.015 mg/L	0.050U mg/L
EB_PZ-139_071111A	Formaldehyde	0.016 mg/L	0.050U mg/L

Sample EB_PZ-139_071111A was identified as an equipment blank. No formaldehyde was found with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-139_071111A	7/11/11	Formaldehyde	0.016 mg/L	PZ-139_071111_01

Sample FB_071211_19 (from SDG 280-17954-1) was identified as a field blank. No formaldehyde was found with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_071211_19	7/12/11	Formaldehyde	0.025 mg/L	PZ-139_071111_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-139_071111_01	Formaldehyde	0.015 mg/L	0.050U mg/L

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-17903-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 3rd Qtr, 2011
Formaldehyde - Data Qualification Summary - SDG 280-17903-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-17903-1	RD-68B_071111_01 RD-68A_071111_01 PZ-139_071111_01 EB_PZ-139_071111A	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

**Boeing SSFL GW 3rd Qtr, 2011
Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-17903-1**

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-17903-1	RD-68B_071111_01	Formaldehyde	0.050U mg/L	A	B
280-17903-1	RD-68A_071111_01	Formaldehyde	0.050U mg/L	A	B
280-17903-1	PZ-139_071111_01	Formaldehyde	0.050U mg/L	A	B
280-17903-1	EB_PZ-139_071111A	Formaldehyde	0.050U mg/L	A	B

**Boeing SSFL GW 3rd Qtr, 2011
Formaldehyde - Field Blank Data Qualification Summary - SDG 280-17903-1**

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-17903-1	PZ-139_071111_01	Formaldehyde	0.050U mg/L	A	F

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/11/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	SW	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	A	LCS
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	SW	EB = 4 FB = FB_071211_19 (280-17954-1)

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinstate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: *Water*

1	RD-68B_071111_01	11		21		31	
2	RD-68A_071111_01	12		22		32	
3	PZ-139_071111_01	13		23		33	
4	EB_PZ-139_071111A	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

VALIDATION FINDINGS WORKSHEET
Blanks

METHOD: GC HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- Y N N/A
- Y N N/A
- Y N N/A
- Y N N/A

Level IV/D Only

- Y N N/A
- Y N N/A

(Gasoline and aromatics only) Was a method blank analyzed with each 24 hour batch?

Was a method blank analyzed for each analytical / extraction batch of ≤20 samples?

Blank extraction date: 7/12/11 Blank analysis date: 7/14/11

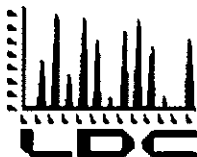
Conc. units: mg/L Associated samples: A 11 Coedu ; B

Compound	Blank ID	Sample Identification			
	<u>MB 240-8206/E-A</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
<u>Formaldehyde</u>	<u>0.0184</u>	<u>0.018/0.0504</u>	<u>0.014/0.0504</u>	<u>0.015/0.0504</u>	<u>0.016/0.0504</u>

Blank extraction date: _____ Blank analysis date: _____
Conc. units: _____ Associated samples: _____

Compound	Blank ID	Sample Identification			

ALL CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected. "U".



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

August 22, 2011

SUBJECT: Boeing SSFL GW 3rd Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on August 1, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25950:

<u>SDG #</u>	<u>Fraction</u>
280-17900-1/ H1G130434 280-17903-1, 280-17954-1 280-17964-1	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, N-Nitrosodimethylamine, Metals, Wet Chemistry, TPH as Extractables,
280-18010-1/ IUG1432 280-18016-1, 280-18078-2	Dioxins/Dibenzofurans, Formaldehyde, Hydrazine, Perchlorate

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011
Collection Date: July 12, 2011
LDC Report Date: August 11, 2011
Matrix: Water
Parameters: Formaldehyde
Validation Level: Level V
Laboratory: TestAmerica, Inc./Lancaster Laboratories
Sample Delivery Group (SDG): 280-17954-1

Sample Identification

FB_071211_19
RD-08_071211_01
HAR-19_071211_01
HAR-19_071211_36

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
MB240-8428/5-A	7/14/11	Formaldehyde	0.0158 mg/L	All samples in SDG 280-17954-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
FB_071211_19	Formaldehyde	0.025 mg/L	0.050U mg/L
RD-08_071211_01	Formaldehyde	0.026 mg/L	0.050U mg/L
HAR-19_071211_01	Formaldehyde	0.016 mg/L	0.050U mg/L
HAR-19_071211_36	Formaldehyde	0.019 mg/L	0.050U mg/L

Sample FB_071211_19 was identified as a field blank. No formaldehyde contaminants were found with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_071211_19	7/12/11	Formaldehyde	0.025 mg/L	No associated samples in this SDG

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-17954-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples HAR-19_071211_01 and HAR-19_071211_36 were identified as field duplicates. No formaldehyde was detected in any of the samples with the following exceptions:

Compound	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	HAR-19_071211_01	HAR-19_071211_36			
Formaldehyde	0.016	0.019	17 (≤35)	-	-

**Boeing SSFL GW 3rd Qtr, 2011
 Formaldehyde - Data Qualification Summary - SDG 280-17954-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-17954-1	FB_071211_19 RD-08_071211_01 HAR-19_071211_01 HAR-19_071211_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

**Boeing SSFL GW 3rd Qtr, 2011
 Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-17954-1**

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-17954-1	FB_071211_19	Formaldehyde	0.050U mg/L	A	B
280-17954-1	RD-08_071211_01	Formaldehyde	0.050U mg/L	A	B
280-17954-1	HAR-19_071211_01	Formaldehyde	0.050U mg/L	A	B
280-17954-1	HAR-19_071211_36	Formaldehyde	0.050U mg/L	A	B

**Boeing SSFL GW 3rd Qtr, 2011
 Formaldehyde - Field Blank Data Qualification Summary - SDG 280-17954-1**

No Sample Data Qualified in this SDG

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/12/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	SW	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	N	Client spec
VII.	Laboratory control samples	A	1ES
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	SW	D = 3, 4
XIII.	Field blanks	SW	FB = 1

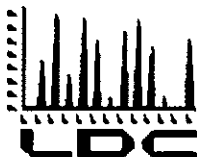
Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

1	FB_071211_19	11		21		31	
2	RD-08_071211_01	12		22		32	
3	HAR-19_071211_01 <i>D</i>	13		23		33	
4	HAR-19_071211_36 <i>D</i>	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

August 22, 2011

SUBJECT: Boeing SSFL GW 3rd Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on August 1, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25950:

<u>SDG #</u>	<u>Fraction</u>
280-17900-1/ H1G130434 280-17903-1, 280-17954-1 280-17964-1	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, N-Nitrosodimethylamine, Metals, Wet Chemistry, TPH as Extractables,
280-18010-1/ IUG1432 280-18016-1, 280-18078-2	Dioxins/Dibenzofurans, Formaldehyde, Hydrazine, Perchlorate

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011

Collection Date: July 12, 2011

LDC Report Date: August 11, 2011

Matrix: Water

Parameters: Dioxins/Dibenzofurans

Validation Level: EPA Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-17964-1

Sample Identification

FB_071211-19

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Routine Calibration (Continuing)

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
1199047-MB	7/18/11	OCDD	6.4 pg/L	FB_071211-19

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
FB_071211-19	OCDD	4.0 pg/L	4.0U pg/L

Sample FB_071211-19 was identified as a field blank. No polychlorinated dioxin/dibenzofuran contaminants were found with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_071211-19	7/12/11	OCDD	4.0 pg/L	No associated samples in this SDG

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

Internal standards data were not reviewed for Level V.

X. Target Compound Identifications

Raw data were not reviewed for this SDG.

XI. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-17964-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XII. System Performance

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 3rd Qtr, 2011
 Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-17964-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-17964-1	FB_071211-19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

**Boeing SSFL GW 3rd Qtr, 2011
 Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-17964-1**

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-17964-1	FB_071211-19	OCDD	4.0U pg/L	A	B

**Boeing SSFL GW 3rd Qtr, 2011
 Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-17964-1**

No Sample Data Qualified in this SDG

LDC #: 25950D21
 SDG #: 280-17964-1
 Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 8/10/11
 Page: 1 of 1
 Reviewer: OVG
 2nd Reviewer: W

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/12/11
II.	HRGC/HRMS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Routine calibration/ICV	N	
V.	Blanks	SW	
VI.	Matrix spike/Matrix spike duplicates	N	Client spec
VII.	Laboratory control samples	A	UCS / D
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	N	
X.	Target compound identifications	N	
XI.	Compound quantitation and CRQLs	N	
XII.	System performance	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	SW	FB = 1

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: Water

1	FB_071211_19	71	11 99047-MB	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

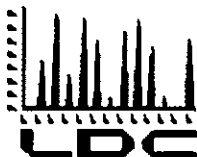
Notes: _____

VALIDATION FINDINGS WORKSHEET

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

A. 2,3,7,8-TCDD	F. 1,2,3,4,6,7,8-HpCDD	K. 1,2,3,4,7,8-HxCDF	P. 1,2,3,4,7,8,9-HpCDF	U. Total HpCDD
B. 1,2,3,7,8-PeCDD	G. OCDD	L. 1,2,3,6,7,8-HxCDF	Q. OCDF	V. Total TCDF
C. 1,2,3,4,7,8-HxCDD	H. 2,3,7,8-TCDF	M. 2,3,4,6,7,8-HxCDF	R. Total TCDD	W. Total PeCDF
D. 1,2,3,6,7,8-HxCDD	I. 1,2,3,7,8-PeCDF	N. 1,2,3,7,8,9-HxCDF	S. Total PeCDD	X. Total HxCDF
E. 1,2,3,7,8,9-HxCDD	J. 2,3,4,7,8-PeCDF	O. 1,2,3,4,6,7,8-HpCDF	T. Total HxCDD	Y. Total HpCDF

Notes:



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

August 22, 2011

SUBJECT: Boeing SSFL GW 3rd Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on August 1, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25950:

<u>SDG #</u>	<u>Fraction</u>
280-17900-1/ H1G130434 280-17903-1, 280-17954-1 280-17964-1	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, N-Nitrosodimethylamine, Metals, Wet Chemistry, TPH as Extractables,
280-18010-1/ IUG1432 280-18016-1, 280-18078-2	Dioxins/Dibenzofurans, Formaldehyde, Hydrazine, Perchlorate

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011
Collection Date: July 13, 2011
LDC Report Date: August 11, 2011
Matrix: Water
Parameters: Volatiles
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-18010-1

Sample Identification

RD-52C_07131_01
TB_RD-52C_071311
RD-56B_071311_01
RD-56A_071311_01
RD-86_071311_01
TB_RD-86_071311
RD-96_071311_01
RD-13_071311_01
TB_RD-13_071311
RD-20_071311_01
RD-09_071311_01

Introduction

This data review covers 11 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Samples TB_RD-52C_071311, TB_RD-86_071311, and TB_RD-13_071311 were identified as a trip blanks. No volatile contaminants were found in this blank with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
TB_RD-52C_071311	7/13/11	Methylene chloride	0.57 ug/L	RD-52C_071311_01 RD-56B_071311_01 RD-56A_071311_01
TB_RD-86_071311	7/13/11	Methylene chloride	0.95 ug/L	RD-86_071311_01 RD-96_071311_01
TB_RD-13_071311	7/13/11	Methylene chloride	0.75 ug/L	RD-13_071311_01 RD-20_071311_01 RD-09_071311_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
RD-56B_071311_01	Methylene chloride	0.39 ug/L	5.0U ug/L
RD-86_071311_01	Methylene chloride	0.35 ug/L	5.0U ug/L
RD-96_071311_01	Methylene chloride	0.41 ug/L	5.0U ug/L
RD-13_071311_01	Methylene chloride	0.37 ug/L	5.0U ug/L
RD-20_071311_01	Methylene chloride	0.36 ug/L	5.0U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-18010-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 3rd Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-18010-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-18010-1	RD-52C_071311_01 TB_RD-52C_071311 RD-56B_071311_01 RD-56A_071311_01 RD-86_071311_01 TB_RD-86_071311 RD-96_071311_01 RD-13_071311_01 TB_RD-13_071311 RD-20_071311_01 RD-09_071311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

Boeing SSFL GW 3rd Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-18010-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 3rd Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-18010-1

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-18010-1	RD-86_071311_01	Methylene chloride	5.0U ug/L	A	T
280-18010-1	RD-96_071311_01	Methylene chloride	5.0U ug/L	A	T
280-18010-1	RD-13_071311_01	Methylene chloride	5.0U ug/L	A	T
280-18010-1	RD-20_071311_01	Methylene chloride	5.0U ug/L	A	T
280-18010-1	RD-56B_071311_01	Methylene chloride	5.0U ug/L	A	T

LDC #: 25950E1a

VALIDATION COMPLETENESS WORKSHEET

Date: 8/10/11

SDG #: 280-18010-1

Level V

Page: [of]

Laboratory: Test America, Inc.

Reviewer: JVB

2nd Reviewer: H

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/13/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS 1b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	TB = 2, 6, 9

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	RD-52C_07131_01	11	RD-09_071311_01	21	MB 280-77823/6	31	
2	TB_RD-52C_071311	12		22		32	
3	RD-56B_071311_01	13		23		33	
4	RD-56A_071311_01	14		24		34	
5	RD-86_071311_01	15		25		35	
6	TB_RD-86_071311	16		26		36	
7	RD-96_071311_01	17		27		37	
8	RD-13_071311_01	18		28		38	
9	TB_RD-13_071311	19		29		39	
10	RD-20_071311_01	20		30		40	

VOCs = 3-11

VOCs + IPA = 1, 2

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC. 1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl chloride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011

Collection Date: July 13, 2011

LDC Report Date: August 11, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-18010-1

Sample Identification

RD-52C_07131_01

RD-09_071311_01

TB_RD-09_071311

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-dioxane was found in the method blanks.

Sample TB_RD-09_071311 was identified as a trip blank. No 1,4-dioxane was found.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-18010-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 3rd Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-18010-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-18010-1	RD-52C_07131_01 RD-09_071311_01 TB_RD-09_071311	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

Boeing SSFL GW 3rd Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-18010-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 3rd Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-18010-1

No Sample Data Qualified in this SDG

LDC #: 25950E1b

VALIDATION COMPLETENESS WORKSHEET

Date: 8/10/11

SDG #: 280-18010-1

Level V

Page: 1 of 1

Laboratory: Test America Laboratories, Inc.

Reviewer: JG

2nd Reviewer: R

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/13/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	CS
VIII.	Laboratory control samples	A	KCS 1D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 3

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	RD-52C_07131_01	11	MB 280-77693/5	21		31	
2	RD-09_071311_01	12		22		32	
3	TB_RD-09_071311	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011
Collection Date: July 13, 2011
LDC Report Date: August 19, 2011
Matrix: Water
Parameters: 1,2,3-Trichloropropane
Validation Level: Level V
Laboratory: TestAmerica, Inc./Weck laboratories, Inc.
Sample Delivery Group (SDG): 280-18010-1/IUG1432

Sample Identification

RD-52C_07131_01
RD-56B_071311_01
TB_RD-56B_071311
RD-56A_071311_01
RD-56B_071311_01DUP

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-trichloropropane was found in the method blanks.

Sample TB_RD-56B_071311 was identified as a trip blank. No 1,2,3-trichloropropane was found in this blank.

VI. Surrogate Spikes

Surrogate spikes were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUG1432	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 3rd Qtr, 2011
 1,2,3-Trichloropropane - Data Qualification Summary - SDG IUG1432**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUG1432	RD-52C_07131_01 RD-56B_071311_01 TB_RD-56B_071311 RD-56A_071311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

**Boeing SSFL GW 3rd Qtr, 2011
 1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG IUG1432**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 3rd Qtr, 2011
 1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG IUG1432**

No Sample Data Qualified in this SDG

LDC #: 25950E1c

VALIDATION COMPLETENESS WORKSHEET

Date: 8/10/11

SDG #: IUG1432

Level V

Page: 1 of 1

Laboratory: Test America, Inc. / Weck Laboratories, Inc.

Reviewer: *SVL*2nd Reviewer: *R*

METHOD: GC/MS 1,2,3-Trichloropropane (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/13/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates / Dup	N/A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 3

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	RD-52C_07131_01	11	11G 2313-Blk1	21		31	
2	RD-56B_071311_01	12	11G 2490- ↓	22		32	
3	TB_RD-56B_071311	13		23		33	
4	RD-56A_071311_01	14		24		34	
5	RD 2 Dup	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011

Collection Date: July 13, 2011

LDC Report Date: August 11, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-18010-1

Sample Identification

RD-52C_07131_01
RD-49A_071311_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-18010-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 3rd Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-18010-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-18010-1	RD-52C_07131_01 RD-49A_071311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

**Boeing SSFL GW 3rd Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-18010-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 3rd Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-18010-1**

No Sample Data Qualified in this SDG

LDC #: 25950E2a

VALIDATION COMPLETENESS WORKSHEET

Date: 8/10/11

SDG #: 280-18010-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JVG

2nd Reviewer: A

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/13/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	CS
VIII.	Laboratory control samples	A	LCS / D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

IATA 06						
1	RD-52C_07131_01	11	MB 280 - 76766/A	21		31
2	RD-49A_071311_01	12		22		32
3		13		23		33
4		14		24		34
5		15		25		35
6		16		26		36
7		17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

Phthalates + NB = 1
Phthalates = 2

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011

Collection Date: July 13, 2011

LDC Report Date: August 11, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-18010-1

Sample Identification

RD-52C_07131_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625C for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-nitrosodimethylamine was found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB280-77600/1-A	7/20/11	N-Nitrosodimethylamine	0.00647 ug/L	RD-52C_07131_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D280-77600/2,3-A (All samples in SDG 280-18010-1)	N-Nitrosodimethylamine	125 (68-124)	-	-	J (all detects)	P

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-18010-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 3rd Qtr, 2011

N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-18010-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-18010-1	RD-52C_07131_01	N-Nitrosodimethylamine	J (all detects)	P	Laboratory control samples (%R) (L)
280-18010-1	RD-52C_07131_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

Boeing SSFL GW 3rd Qtr, 2011

N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary – SDG 280-18010-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 3rd Qtr, 2011

N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-18010-1

No Sample Data Qualified in this SDG

LDC #: 25950E2b

VALIDATION COMPLETENESS WORKSHEET

Date: 8/10/11

SDG #: 280-18010-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JG

2nd Reviewer: u

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/12/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	SE CS
VIII.	Laboratory control samples	SW	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	RD-52C_07131_01	11	MB 280-77600 A-D	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011
Collection Date: July 13, 2011
LDC Report Date: August 19, 2011
Matrix: Water
Parameters: Metals
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-18010-1

Sample Identification

RD-86_071311_01
RD-86_071311_01F
RD-86_071311_01MS
RD-86_071311_01MSD
RD-86_071311_01FMS
RD-86_071311_01FMSD

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6020 and 6010B for Metals. The metals analyzed were Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Nickel, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No metal contaminants were found in the preparation blanks.

No field blanks were identified in this SDG.

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution data were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-18010-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 3rd Qtr, 2011
Metals - Data Qualification Summary - SDG 280-18010-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-18010-1	RD-86_071311_01 RD-86_071311_01F RD-86_071311_01MS RD-86_071311_01MSD RD-86_071311_01FMS RD-86_071311_01FMSD	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 3rd Qtr, 2011
Metals - Laboratory Blank Data Qualification Summary - SDG 280-18010-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 3rd Qtr, 2011
Metals - Field Blank Data Qualification Summary - SDG 280-18010-1**

No Sample Data Qualified in this SDG

LDC #: 25950E4
 SDG #: 280-18010-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 8/11/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: Metals (EPA SW 846 Method 6020/7000) ⁶⁰¹⁰⁵

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/13/11
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	A	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	A	MS/D
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	A	LCS/D
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	
XIV.	Field Duplicates	N	
XV.	Field Blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

water

1	RD-86_071311_01	11	<i>PBLW</i>	21		31	
2	RD-86_071311_01F	12		22		32	
3	RD-86_071311_01MS	13		23		33	
4	RD-86_071311_01MSD	14		24		34	
5	RD-86_071311_01FMS	15		25		35	
6	RD-86_071311_01FMSD	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: Samples appended with "F" were analyzed for dissolved metals _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011
Collection Date: July 13, 2011
LDC Report Date: August 11, 2011
Matrix: Water
Parameters: Wet Chemistry
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-18010-1

Sample Identification

RD-52C_07131_01
RD-56B_071311_01
RD-56A_071311_01
RD-86_071311_01

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 350.1 for Ammonia as Nitrogen, EPA Method 300.0 for Fluoride and Nitrate, EPA Method 314.0 for Perchlorate, and EPA SW 846 Method 9040B for pH.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

Raw data were not reviewed for this SDG. The review was based on QC data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
PB (prep blank)	Ammonia as N	0.132 mg/L	RD-52C_07131_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
RD-52C_07131_01	Ammonia as N	0.067 mg/L	0.067U mg/L

No field blanks were identified in this SDG.

V. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VI. Duplicates

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-18010-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 3rd Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-18010-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-18010-1	RD-52C_071311_01 RD-56B_071311_01 RD-56A_071311_01 RD-86_071311_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 3rd Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-18010-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-18010-1	RD-52C_071311_01	Ammonia as N	0.067U mg/L	A	B

**Boeing SSFL GW 3rd Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-18010-1**

No Sample Data Qualified in this SDG

LDC #: 25950E6
 SDG #: 280-18010-1
 Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 8/11/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: (Analyte) Ammonia-N (EPA Method 350.1), Fluoride, Nitrate, (EPA Method 300.0), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/13/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	SW	
IV	Matrix Spike/Matrix Spike Duplicates	N	Client specified
V	Duplicates	N	↓
VI.	Laboratory control samples	A	LCS/D
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: water

1	RD-52C_07131_01	11	PPB	21		31	
2	RD-56B_071311_01	12		22		32	
3	RD-56A_071311_01	13		23		33	
4	RD-86_071311_01	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011
Collection Date: July 13, 2011
LDC Report Date: August 11, 2011
Matrix: Water
Parameters: Total Petroleum Hydrocarbons as Extractables
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-18010-1

Sample Identification

RD-52C_07131-01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Total Petroleum Hydrocarbons (TPH) as Extractables.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as extractable contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

**Boeing SSFL GW 3rd Qtr, 2011
 Total Petroleum Hydrocarbons as Extractables - Data Qualification Summary - SDG
 280-18010-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-18010-1	RD-52C_07131-01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

**Boeing SSFL GW 3rd Qtr, 2011
 Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data Qualification
 Summary - SDG 280-18010-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 3rd Qtr, 2011
 Total Petroleum Hydrocarbons as Extractables - Field Blank Data Qualification
 Summary - SDG 280-18010-1**

No Sample Data Qualified in this SDG

LDC #: 25950E8

VALIDATION COMPLETENESS WORKSHEET

Date: 8/10/11

SDG #: 280-18010-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: SVB

2nd Reviewer: K

METHOD: GC TPH as Extractables (EPA SW846 Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/13/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	CS
VII.	Laboratory control samples	A	LCS 1P
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	RD-52C 07131_01	11	MB 280 - 77128/1-21	21	31
2		12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011
Collection Date: July 13, 2011
LDC Report Date: August 11, 2011
Matrix: Water
Parameters: Hydrazines
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-18010-1

Sample Identification

RD-52C_07131_01
RD-52C_071311_01MS
RD-52C_071311_01MSD

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DVWC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazine contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-18010-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 3rd Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-18010-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-18010-1	RD-52C_07131_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

**Boeing SSFL GW 3rd Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-18010-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 3rd Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-18010-1**

No Sample Data Qualified in this SDG

LDC #: 25950E76

VALIDATION COMPLETENESS WORKSHEET

Date: 8/10/11

SDG #: 280-18010-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JLC

2nd Reviewer: [Signature]

METHOD: HPLC Hydrazines (Method DV-WC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/13/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	A	
VII.	Laboratory control samples	A	les 1b
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

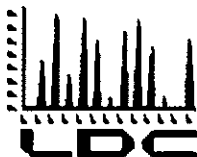
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

water

1	RD-52C_07131_01	11	hb 260-7704/25	21	31
2	RD-86-071311_01MS	12		22	32
3	RD-86-071311_01MSD	13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

August 22, 2011

SUBJECT: Boeing SSFL GW 3rd Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on August 1, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25950:

<u>SDG #</u>	<u>Fraction</u>
280-17900-1/ H1G130434	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane,
280-17903-1, 280-17954-1	Semivolatiles, N-Nitrosodimethylamine, Metals,
280-17964-1	Wet Chemistry, TPH as Extractables,
280-18010-1/ IUG1432	Dioxins/Dibenzofurans, Formaldehyde, Hydrazine,
280-18016-1, 280-18078-2	Perchlorate

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011
Collection Date: July 13, 2011
LDC Report Date: August 11, 2011
Matrix: Water
Parameters: Formaldehyde
Validation Level: Level V
Laboratory: TestAmerica, Inc./Lancaster Laboratories
Sample Delivery Group (SDG): 280-18016-1

Sample Identification

RD-52C_071311_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
MB240-8572/2-A	7/15/11	Formaldehyde	0.0147 mg/L	RD-52C_071311_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
RD-52C_071311_01	Formaldehyde	0.022 mg/L	0.050U mg/L

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-18016-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 3rd Qtr, 2011
Formaldehyde - Data Qualification Summary - SDG 280-18016-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-18016-1	RD-52C_071311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

Boeing SSFL GW 3rd Qtr, 2011
Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-18016-1

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-18016-1	RD-52C_071311_01	Formaldehyde	0.050U mg/L	A	B

Boeing SSFL GW 3rd Qtr, 2011
Formaldehyde - Field Blank Data Qualification Summary - SDG 280-18016-1

No Sample Data Qualified in this SDG

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/13/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	SW	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	N	Client spec
VII.	Laboratory control samples	A	LCS
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

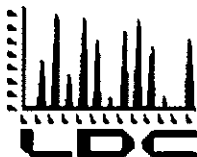
D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	RD-52C_071311_01	11		21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

August 22, 2011

SUBJECT: Boeing SSFL GW 3rd Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on August 1, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25950:

<u>SDG #</u>	<u>Fraction</u>
280-17900-1/ H1G130434 280-17903-1, 280-17954-1 280-17964-1	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, N-Nitrosodimethylamine, Metals, Wet Chemistry, TPH as Extractables,
280-18010-1/ IUG1432 280-18016-1, 280-18078-2	Dioxins/Dibenzofurans, Formaldehyde, Hydrazine, Perchlorate

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011

Collection Date: July 14, 2011

LDC Report Date: August 11, 2011

Matrix: Water

Parameters: Perchlorate

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-18078-2

Sample Identification

RS-18_071411-01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 6860 for Perchlorate.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No perchlorate was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-18078-2	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 3rd Qtr, 2011
Perchlorate - Data Qualification Summary - SDG 280-18078-2

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-18078-2	RS-18_071411-01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

Boeing SSFL GW 3rd Qtr, 2011
Perchlorate - Laboratory Blank Data Qualification Summary - SDG 280-18078-2

No Sample Data Qualified in this SDG

Boeing SSFL GW 3rd Qtr, 2011
Perchlorate - Field Blank Data Qualification Summary - SDG 280-18078-2

No Sample Data Qualified in this SDG

METHOD: LC/MS Perchlorate (EPA SW846 Method 6860)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>7/14/11</u>
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	<u>CS</u>
VIII.	Laboratory control samples	A	<u>LCS 1B</u>
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	RS-18 071411 01	11	MB 280-78181/4	21	31
2		12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

August 22, 2011

SUBJECT: Boeing SSFL GW 3rd Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on August 4, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25976:

SDG #

Fraction

280-18154-1, 280-18197-1 Formaldehyde, Fluoride
280-18240-1, IUG1670

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Shella Casner for
Pei Geng

Project Manager/Senior Chemist

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011

Collection Date: July 15, 2011

LDC Report Date: August 15, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-18154-1

Sample Identification

RD-02_071511_01

RD-52B_071511_01

RD-01_071511_01

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
MB 240-8825/2-A	7/18/11	Formaldehyde	0.0158 mg/L	All samples in SDG 280-18154-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
RD-02_071511_01	Formaldehyde	0.024 mg/L	0.050U mg/L
RD-52B_071511_01	Formaldehyde	0.017 mg/L	0.050U mg/L
RD-01_071511_01	Formaldehyde	0.022 mg/L	0.050U mg/L

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-18154-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 3rd Qtr, 2011
 Formaldehyde - Data Qualification Summary - SDG 280-18154-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-18154-1	RD-02_071511_01 RD-52B_071511_01 RD-01_071511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

**Boeing SSFL GW 3rd Qtr, 2011
 Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-18154-1**

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-18154-1	RD-02_071511_01	Formaldehyde	0.050U mg/L	A	B
280-18154-1	RD-52B_071511_01	Formaldehyde	0.050U mg/L	A	B
280-18154-1	RD-01_071511_01	Formaldehyde	0.050U mg/L	A	B

**Boeing SSFL GW 3rd Qtr, 2011
 Formaldehyde - Field Blank Data Qualification Summary - SDG 280-18154-1**

No Sample Data Qualified in this SDG

LDC #: 25976A71

VALIDATION COMPLETENESS WORKSHEET

Date: 8/12/11

SDG #: 280-18154-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: *OVG*

2nd Reviewer: *[Signature]*

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/15/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	SA	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	A	UCS
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: *Water*

1	RD-02_071511_01	11	MB 240-8825/2-A	21		31	
2	RD-52B_071511_01	12		22		32	
3	RD-01_071511_01	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Blanks

METHOD: GC HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- Y N N/A Were all samples associated with a given method blank?
- Y N N/A Was a method blank performed for each matrix and whenever a sample extraction procedure was performed?
- Y N N/A Was a method blank performed with each extraction batch?
- Y N N/A Were any contaminants found in the method blanks? If yes, please see findings below.

Level: W/D Only

Y N N/A (Gasoline and aromatics only) Was a method blank analyzed with each 24 hour batch?

Y N N/A Was a method blank analyzed for each analytical / extraction batch of ≤20 samples?

Blank extraction date: 7/18/11 Blank analysis date: 7/20/11 Associated samples: A11 code: B

Conc. units: ng/L

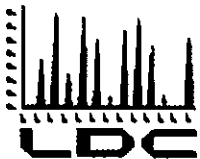
Compound	Blank ID	Blank ID	Sample Identification
	MB 240-8825/2-A	1	3
Formaldehyde	0.0158	0.024 / 0.017 / 0.0504	0.027 / 0.0504

Blank extraction date: _____ Blank analysis date: _____ Associated samples: _____

Conc. units: _____

Compound	Blank ID	Sample Identification

ALL CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT: All contaminants within five times the method blank concentration were qualified as not detected, "U".



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

August 22, 2011

SUBJECT: Boeing SSFL GW 3rd Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on August 4, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25976:

SDG #

Fraction

280-18154-1, 280-18197-1 Formaldehyde, Fluoride
280-18240-1, IUG1670

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Pei Geng

Project Manager/Senior Chemist

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011

Collection Date: July 18, 2011

LDC Report Date: August 15, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-18197-1

Sample Identification

RD-53_071811_01

RD-52A_071811_01

WS-04A_071811_01

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
MB 240-9140/2-A	7/20/11	Formaldehyde	0.0183 mg/L	All samples in SDG 280-18197-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
RD-53_071811_01	Formaldehyde	0.015 mg/L	0.050U mg/L
RD-52A_071811_01	Formaldehyde	0.017 mg/L	0.050U mg/L
WS-04A_071811_01	Formaldehyde	0.024 mg/L	0.050U mg/L

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-18197-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 3rd Qtr, 2011
 Formaldehyde - Data Qualification Summary - SDG 280-18197-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-18197-1	RD-53_071811_01 RD-52A_071811_01 WS-04A_071811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

**Boeing SSFL GW 3rd Qtr, 2011
 Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-18197-1**

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-18197-1	RD-53_071811_01	Formaldehyde	0.050U mg/L	A	B
280-18197-1	RD-52A_071811_01	Formaldehyde	0.050U mg/L	A	B
280-18197-1	WS-04A_071811_01	Formaldehyde	0.050U mg/L	A	B

**Boeing SSFL GW 3rd Qtr, 2011
 Formaldehyde - Field Blank Data Qualification Summary - SDG 280-18197-1**

No Sample Data Qualified in this SDG

LDC #: 25976B71

VALIDATION COMPLETENESS WORKSHEET

Date: 8/17/11

SDG #: 280-18197-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: *OV*

2nd Reviewer: *LA*

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/11 & 7/18/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	SW	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	A	LCS
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

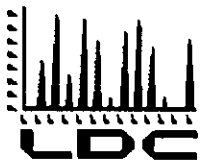
D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	RD-53_071811_01	11	MB 240-9140/2-A	21		31	
2	RD-52A_071811_01	12		22		32	
3	WS-04A_071811_01	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

August 22, 2011

SUBJECT: Boeing SSFL GW 3rd Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on August 4, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25976:

SDG #

Fraction

280-18154-1, 280-18197-1 Formaldehyde, Fluoride
280-18240-1, IUG1670

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Shella Casner for
Pei Geng
Project Manager/Senior Chemist

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011
Collection Date: July 19, 2011
LDC Report Date: August 15, 2011
Matrix: Water
Parameters: Formaldehyde
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-18240-1

Sample Identification

RD-11_071911_01
RD-12_071911_01
RD-06_071911_01
RD-05C_071911_01
RD-05A_071911_01
RD-05B_071911_01

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
MB 240-9140/2-A	7/20/11	Formaldehyde	0.0183 mg/L	All samples in SDG 280-18240-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
RD-11_071911_01	Formaldehyde	0.023 mg/L	0.050U mg/L
RD-12_071911_01	Formaldehyde	0.015 mg/L	0.050U mg/L
RD-06_071911_01	Formaldehyde	0.020 mg/L	0.050U mg/L
RD-05C_071911_01	Formaldehyde	0.012 mg/L	0.050U mg/L
RD-05A_071911_01	Formaldehyde	0.016 mg/L	0.050U mg/L
RD-05B_071911_01	Formaldehyde	0.032 mg/L	0.050U mg/L

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-18240-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 3rd Qtr, 2011
Formaldehyde - Data Qualification Summary - SDG 280-18240-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-18240-1	RD-11_071911_01 RD-12_071911_01 RD-06_071911_01 RD-05C_071911_01 RD-05A_071911_01 RD-05B_071911_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

Boeing SSFL GW 3rd Qtr, 2011
Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-18240-1

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-18240-1	RD-11_071911_01	Formaldehyde	0.050U mg/L	A	B
280-18240-1	RD-12_071911_01	Formaldehyde	0.050U mg/L	A	B
280-18240-1	RD-06_071911_01	Formaldehyde	0.050U mg/L	A	B
280-18240-1	RD-05C_071911_01	Formaldehyde	0.050U mg/L	A	B
280-18240-1	RD-05A_071911_01	Formaldehyde	0.050U mg/L	A	B
280-18240-1	RD-05B_071911_01	Formaldehyde	0.050U mg/L	A	B

Boeing SSFL GW 3rd Qtr, 2011
Formaldehyde - Field Blank Data Qualification Summary - SDG 280-18240-1

No Sample Data Qualified in this SDG

LDC #: 25976C71

VALIDATION COMPLETENESS WORKSHEET

Date: 8/12/11

SDG #: 280-18240-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: SVC

2nd Reviewer: *[Signature]*

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/19/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	SW	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	X	LCS
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	RD-11_071911_01	71	MB 240-9140/2-A	21		31	
2	RD-12_071911_01	12		22		32	
3	RD-06_071911_01	13		23		33	
4	RD-05C_071911_01	14		24		34	
5	RD-05A_071911_01	15		25		35	
6	RD-05B_071911_01	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

VALIDATION FINDINGS WORKSHEET

Reviewer: OM

2nd Reviewer: [Signature]

METHOD: GC HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- Y N N/A Were all samples associated with a given method blank?
- Y N N/A Was a method blank performed for each matrix and whenever a sample extraction procedure was performed?
- Y N N/A Was a method blank performed with each extraction batch?
- Y N N/A Were any contaminants found in the method blanks? If yes, please see findings below.

Level IV/D Only

Y N N/A (Gasoline and aromatics only) Was a method blank analyzed with each 24 hour batch?

Y N N/A Was a method blank analyzed for each analytical / extraction batch of ≤20 samples?

Blank extraction date: 7/20/11 Blank analysis date: 7/21/11

Associated samples: A11

Conc. units: mg/L code: 3

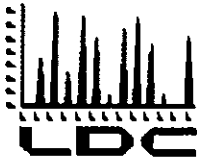
Compound	Blank ID	Sample Identification					
		1	2	3	4	5	6
Formaldehyde	0.0183	0.023 / 0.0504	0.015 / 0.0504	0.020 / 0.0504	0.012 / 0.0504	0.016 / 0.0504	0.030 / 0.0504

Blank extraction date: _____ Blank analysis date: _____

Conc. units: _____ Associated samples: _____

Compound	Blank ID	Sample Identification					
		1	2	3	4	5	6

ALL CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT: All contaminants within five times the method blank concentration were qualified as not detected, "U".



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

August 22, 2011

SUBJECT: Boeing SSFL GW 3rd Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on August 4, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25976:

SDG #

Fraction

280-18154-1, 280-18197-1 Formaldehyde, Fluoride
280-18240-1, IUG1670

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV LDC #25976 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 3rd Qtr)

LDC	SDG#	DATE RECD	(3) DATE DUE	Formaldehyde (8315)		FI (300.0)		W		S		W		S		W		S		W		S		W		S		W		S		W		S		W		S					
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S				
A	280-18154-1	08/04/11	08/25/11	3	0	-	-																																				
B	280-18197-1	08/04/11	08/25/11	3	0	-	-																																				
C	280-18240-1	08/04/11	08/25/11	6	0	-	-																																				
D	IUG1670	08/04/11	08/25/11	-	-	1	0																																				

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011

Collection Date: July 18, 2011

LDC Report Date: August 12, 2011

Matrix: Water

Parameters: Fluoride

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUG1670

Sample Identification

RD-19_071811_03A
RD-19_071811_03AMS
RD-19_071811_03AMSD

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 300.0 for Fluoride.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

Raw data were not reviewed for this SDG. The review was based on QC data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No fluoride was found in the preparation blanks.

No field blanks were identified in this SDG.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG IUG1670	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

Samples RD-19_071811_01 (from SDG 280-18183-1) and RD-19_071811_03A were identified as split samples. No fluoride was detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	RD-19_071811_01	RD-19_071811_03A			
Fluoride	0.40	0.49	20 (≤35)	-	-

**Boeing SSFL GW 3rd Qtr, 2011
 Fluoride - Data Qualification Summary - SDG IUG1670**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
IUG1670	RD-19_071811_03A	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 3rd Qtr, 2011
 Fluoride - Laboratory Blank Data Qualification Summary - SDG IUG1670**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 3rd Qtr, 2011
 Fluoride - Field Blank Data Qualification Summary - SDG IUG1670**

No Sample Data Qualified in this SDG

LDC #: 25950D6⁷⁶
 SDG #: IUG1670
 Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 8/11/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: (Analyte) Fluoride (EPA Method 300.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>7/18/11</u>
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IV	Matrix Spike/Matrix Spike Duplicates	A	<u>ms/D</u>
V	Duplicates	N	
VI.	Laboratory control samples	A	<u>LCS</u>
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	SW	<u>Splits = (1, RD-19-071811-01 (SD6: 280-18183-1)</u>
X	Field blanks	N	<u>Split</u>

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: WAPL

1	RD-19_071811_03A	11		21		31	
2	RD-19_071811_03AMS	12		22		32	
3	RD-19_071811_03AMSD	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

LDC# 25950D6

VALIDATION FINDINGS WORKSHEET
Split Duplicates

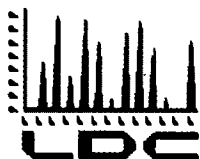
Page: 1 of 1
Reviewer: OR
2nd Reviewer: ✓

Inorganics, Method See Cover

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	RD-19_071811_01	1		
Fluoride	0.40	0.49	20	NQ (≤RLC)

V:\FIELD DUPLICATES\FD_inorganic\25950D6.wpd



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

August 29, 2011

SUBJECT: Boeing SSFL GW 3rd Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on August 5, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25989

<u>SDG #</u>	<u>Fraction</u>
280-18078-1/IUG1516 IUG1059	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Polynuclear Aromatic Hydrocarbons, Polychlorinated Biphenyls, Metals, Wet Chemistry, TPH as Extractables

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011
Collection Date: July 14, 2011
LDC Report Date: August 16, 2011
Matrix: Water
Parameters: Volatiles
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-18078-1

Sample Identification

RD-14_071411_01
TB_RD-14_071411
PZ-124_071411_01A
TB_PZ-124_071411A
RS-18_071411_01
RD-85_071411_01
RD-85_071411_36
TB_RD-85_071411
RD-14_071411_01MS
RD-14_071411_01MSD

Introduction

This data review covers 10 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Samples TB_RD-14_071411, TB_PZ-124_071411A, and TB_RD-85_071411 were identified as a trip blanks. No volatile contaminants were found.

Sample FB_071211_19 (from SDG 280-17952-1) was identified as a field blank. No volatile contaminants were found with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_071211_19	7/12/11	Acetone Chloroform	3.5 ug/L 0.45 ug/L	PZ-124_071411_01A RS-18_071411_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
RS-18_071411_01	Chloroform	2.9 ug/L	2.9U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
TB_RD-14_071411	Toluene-d8	113 (88-110)	All TCL compounds	J (all detects)	P
TB_PZ-124_071411A	Toluene-d8	113 (88-110)	All TCL compounds	J (all detects)	P
RS-18_071411_01	Toluene-d8 Toluene-d8 (20x)	118 (88-110) 116 (88-110)	All TCL compounds	J (all detects) J (all detects)	A
RD-85_071411_01	Toluene-d8	113 (88-110)	All TCL compounds	J (all detects)	P

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
RD-14_071411_01MS/MSD (RD-14_071411_01)	Toluene	122 (73-120)	-	-	J (all detects)	A

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D 280-78257/4,5 (All samples in SDG 280-18078-1)	Acetone	-	136 (48-130)	-	J (all detects)	P

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-18078-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RD-85_071411_01 and RD-85_071411_36 were identified as field duplicates. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	RD-85_071411_01	RD-85_071411_36			
Acetone	2.3	4.5	65 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 3rd Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-18078-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-18078-1	TB_RD-14_071411 TB_PZ-124_071411A RD-85_071411_01	All TCL compounds	J (all detects)	P	Surrogate spikes (%R) (S)
280-18078-1	RS-18_071411_01	All TCL compounds	J (all detects)	A	Surrogate spikes (%R) (S)
280-18078-1	RD-14_071411_01	Toluene	J (all detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
280-18078-1	RD-14_071411_01 TB_RD-14_071411 PZ-124_071411_01A TB_PZ-124_071411A RS-18_071411_01 RD-85_071411_01 RD-85_071411_36 TB_RD-85_071411	Acetone	J (all detects)	P	Laboratory control samples (%R) (L)
280-18078-1	RD-14_071411_01 TB_RD-14_071411 PZ-124_071411_01A TB_PZ-124_071411A RS-18_071411_01 RD-85_071411_01 RD-85_071411_36 TB_RD-85_071411	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 3rd Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-18078-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 3rd Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-18078-1

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-18078-1	RS-18_071411_01	Chloroform	2.9U ug/L	A	F

LDC #: 25989A1a

VALIDATION COMPLETENESS WORKSHEET

Date: 8/15/11

SDG #: 280-18078-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: *JG*

2nd Reviewer: *N*

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	<i>A</i>	Sampling dates: 7/14/11
II.	GC/MS Instrument performance check	<i>N</i>	
III.	Initial calibration	<i>N</i>	
IV.	Continuing calibration/ICV	<i>N</i>	
V.	Blanks	<i>A</i>	
VI.	Surrogate spikes	<i>SW</i>	
VII.	Matrix spike/Matrix spike duplicates	<i>SW</i>	
VIII.	Laboratory control samples	<i>SW</i>	<i>LCS 1b</i>
IX.	Regional Quality Assurance and Quality Control	<i>N</i>	
X.	Internal standards	<i>N</i>	
XI.	Target compound identification	<i>N</i>	
XII.	Compound quantitation/CRQLs	<i>N</i>	
XIII.	Tentatively identified compounds (TICs)	<i>N</i>	
XIV.	System performance	<i>N</i>	
XV.	Overall assessment of data	<i>A</i>	
XVI.	Field duplicates	<i>SW</i>	<i>d = 6,7</i>
XVII.	Field blanks	<i>SW</i>	<i>TB = 2, 4, 8 FB = FB_071211_19</i>

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

(280-17952-1)

Validated Samples:

Water

1	RD-14_071411_01	11	21	<i>1 MB 280-78257/6</i>	31	
2	TB_RD-14_071411	12	22	<i>1 - 78764/5</i>	32	<i>(H, S only)</i>
3	PZ-124_071411_01A	13	23		33	
4	TB_PZ-124_071411A	14	24		34	
5	<i>✓</i> RS-18_071411_01	15	25		35	
6	RD-85_071411_01 <i>D</i>	16	26		36	
7	RD-85_071411_36 <i>D</i>	17	27		37	
8	TB_RD-85_071411	18	28		38	
9	RD-14_071411_01MS	19	29		39	
10	RD-14_071411_01MSD	20	30		40	

VOG's

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC. 1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl chloride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF; ** = Calibration check compounds (CCC) for %RSD.

VALIDATION FINDINGS WORKSHEET

Surrogate Spikes

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
 Y/N/N/A Were all surrogate %R within QC limits?
 Y/N/N/A If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R out of outside of criteria?

#	Date	Sample ID	Surrogate	% Recovery (Limits)	Qualifications	Code:
2			TOL	113 (88-110)	Jacts/p all TCL	(S)
4				113	↓	↓
5				118	Jacts/A (all TCL except H,S)	
5 (FB) (200x)				116	↓	(good H, S only)
6			✓	113	Jacts/p (all TCL)	

- | | |
|------------------------------------|--------------------------|
| QC Limits (Soil) | QC Limits (Water) |
| SMC1 (TOL) = Toluene-d8 | 85-120 |
| SMC2 (BFB) = Bromofluorobenzene | 75-120 |
| SMC3 (DCE) = 1,2-Dichloroethane-d4 | 70-120 |
| SMC4 (DFM) = Dibromofluoromethane | 85-115 |

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GC MS Volatiles (EPA SW 846 Method 8260B)

Y N NA
Y N NA

Were field duplicate pairs identified in this SDG?
 Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent only)
	6	7		
Acetone	2.3	4.5	65	NQ (<5xRL)

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011

Collection Date: July 14, 2011

LDC Report Date: August 26, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-18078-1

Sample Identification

RD-85_071411_01
RD-85_071411_36
TB_RD-85_071411

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-dioxane was found in the method blanks.

Sample TB_RD-85_071411 was identified as a trip blank. No 1,4-dioxane was found.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-18078-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RD-85_071411_01 and RD-85_071411_36 were identified as field duplicates. No 1,4-dioxane was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	RD-85_071411_01	RD-85_071411_36			
1,4-Dioxane	2.0U	0.87	79 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 3rd Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-18078-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-18078-1	RD-85_071411_01 RD-85_071411_36 TB_RD-85_071411	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

Boeing SSFL GW 3rd Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-18078-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 3rd Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-18078-1

No Sample Data Qualified in this SDG

LDC #: 25989A1b
 SDG #: 280-18078-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 8/15/11
 Page: 1 of 1
 Reviewer: JVG
 2nd Reviewer: [Signature]

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/14/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS 1p
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D = 1, 2
XVII.	Field blanks	ND	TB = 3

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: *Water*

1	RD-85_071411_01	D	11	MP 280-77693/5	21	31
2	RD-85_071411_36	D	12		22	32
3	TB_RD-85_071411		13		23	33
4			14		24	34
5			15		25	35
6			16		26	36
7			17		27	37
8			18		28	38
9			19		29	39
10			20		30	40

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GC MS 1,4-DioxaneVolatiles (EPA SW 846 Method 8260B-SIM)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(<=35%) RPD	Qualifications (Parent only)
	1	2		
1,4-Dioxane	2.0U	0.87	79	NQ (<5xRL)

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011
Collection Date: July 14, 2011
LDC Report Date: August 16, 2011
Matrix: Water
Parameters: 1,2,3-Trichloropropane
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): IUG1516

Sample Identification

RD-14_071411_01
TB_RD-14_071411

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-trichloropropane was found in the method blanks.

Sample TB_RD-14_071411 was identified as a trip blank. No 1,2,3-trichloropropane was found in this blank.

VI. Surrogate Spikes

Surrogate spikes were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUG1516	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 3rd Qtr, 2011
1,2,3-Trichloropropane - Data Qualification Summary - SDG IUG1516

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUG1516	RD-14_071411_01 TB_RD-14_071411	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

Boeing SSFL GW 3rd Qtr, 2011
1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG IUG1516

No Sample Data Qualified in this SDG

Boeing SSFL GW 3rd Qtr, 2011
1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG IUG1516

No Sample Data Qualified in this SDG

LDC #: 25989A1c

VALIDATION COMPLETENESS WORKSHEET

Date: 8/15/11

SDG #: IUG1516

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: SVL

2nd Reviewer: [Signature]

METHOD: GC/MS 1,2,3-Trichloropropane (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/14/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 2

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

WATER

1	RD-14_071411_01	11	11G2490-BLK1	21		31	
2	TB_RD-14_071411	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011

Collection Date: July 14, 2011

LDC Report Date: August 16, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-18078-1

Sample Identification

RD-49B_071411_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-76940/1-A	7/16/11	Bis(2-ethylhexyl)phthalate	2.10 ug/L	RD-49B_071411_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
RD-49B_071411_01	Bis(2-ethylhexyl)phthalate	2.7 ug/L	9.5U ug/L

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-18078-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 3rd Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-18078-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-18078-1	RD-49B_071411_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

Boeing SSFL GW 3rd Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-18078-1

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-18078-1	RD-49B_071411_01	Bis(2-ethylhexyl)phthalate	9.5U ug/L	A	B

Boeing SSFL GW 3rd Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-18078-1

No Sample Data Qualified in this SDG

LDC #: 25989A2a

VALIDATION COMPLETENESS WORKSHEET

Date: 8/15/11

SDG #: 280-18078-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JVC

2nd Reviewer: [Signature]

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/14/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS 1/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	RD-49B_071411_01	11	MB 280-77690/A	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

(Phthalates)

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes: * = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011
Collection Date: July 14, 2011
LDC Report Date: August 12, 2011
Matrix: Water
Parameters: Metals
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-18078-1

Sample Identification

RS-18_071411_01
RD-85_071411_01
RD-85_071411_36
RS-18_071411_01F
RD-85_071411_01F
RD-85_071411_36F
RD-85_071411_01MS
RD-85_071411_01MSD

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6020 and 6010B for Metals. The metals analyzed were Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Nickel, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No metal contaminants were found in the preparation blanks.

Sample FB_071211_19F (from SDG 280-17952-1) was identified as a field blank. No metal contaminants were found.

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution data were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-18078-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

Samples RD-85_071411_01 and RD-85_071411_36 and samples RD-85_071411_01F and RD-85_071411_36F were identified as field duplicates. No dissolved metals were detected in any of the samples with the following exceptions:

Compound	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	RD-85_071411_01	RD-85_071411_36			
Antimony	0.000082	0.000090	9 (≤35)	-	-
Arsenic	0.00043	0.00042	2 (≤35)	-	-
Barium	0.039	0.039	0 (≤35)	-	-
Cadmium	0.00079	0.00068	15 (≤35)	-	-
Cobalt	0.00013	0.00013	0 (≤35)	-	-
Copper	0.00056U	0.00069	21 (≤35)	-	-
Nickel	0.0026	0.0026	0 (≤35)	-	-
Sodium	87	86	1 (≤35)	-	-
Thallium	0.000037	0.000038	3 (≤35)	-	-

Compound	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	RD-85_071411_01	RD-85_071411_36			
Vanadium	0.00087	0.00087	0 (≤35)	-	-
Zinc	0.0026	0.0029	11 (≤35)	-	-

Compound	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	RD-85_071411_01F	RD-85_071411_36F			
Antimony	0.000088	0.000074	17 (≤35)	-	-
Arsenic	0.00042	0.00041	2 (≤35)	-	-
Barium	0.038	0.039	3 (≤35)	-	-
Cadmium	0.00081	0.00080	1 (≤35)	-	-
Cobalt	0.00011	0.00011	0 (≤35)	-	-
Copper	0.00056U	0.00058	4 (≤35)	-	-
Nickel	0.0022	0.0023	4 (≤35)	-	-
Sodium	86	87	1 (≤35)	-	-
Thallium	0.000036	0.000035	3 (≤35)	-	-
Vanadium	0.00080	0.00077	4 (≤35)	-	-
Zinc	0.0031	0.0029	7 (≤35)	-	-

**Boeing SSFL GW 3rd Qtr, 2011
 Metals - Data Qualification Summary - SDG 280-18078-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-18078-1	RS-18_071411_01 RD-85_071411_01 RD-85_071411_36 RS-18_071411_01F RD-85_071411_01F RD-85_071411_36F	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 3rd Qtr, 2011
 Metals - Laboratory Blank Data Qualification Summary - SDG 280-18078-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 3rd Qtr, 2011
 Metals - Field Blank Data Qualification Summary - SDG 280-18078-1**

No Sample Data Qualified in this SDG

LDC #: 25989A4

VALIDATION COMPLETENESS WORKSHEET

Date: 8/11/11

SDG #: 280-18078-1

Level V

Page: (of)

Laboratory: Test America, Inc.

Reviewer: *OL*2nd Reviewer: *W*METHOD: Metals (EPA SW 846 Method 6020/7000) ⁶⁰¹⁰³

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/14/11
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	A	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	A	MS/D
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	A	LCS/D
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	
XIV.	Field Duplicates	SW	(2,3), (5,6)
XV.	Field Blanks	SW	FB = FB_071211_19F (SD6: 280-17952-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

water

1	RS-18_071411_01	11		21		31	
2	RD-85_071411_01	12		22		32	
3	RD-85_071411_36	13		23		33	
4	RS-18_071411_01F	14		24		34	
5	RD-85_071411_01F	15		25		35	
6	RD-85_071411_36F	16		26		36	
7	RD-85_071411_01MS	17		27		37	
8	RD-85_071411_01MSD	18		28		38	
9		19		29		39	
10		20		30		40	

Notes: Samples appended with "F" were analyzed for dissolved metals

Field Blanks

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)

Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target analytes detected in the field blanks?

Blank units: mg/L **Associated sample units:** mg/L

Sampling date: 7/12/11 Soil factor applied NA

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: 4

Reason: F

Analyte	Blank ID	Action Limit	No. Qualifiers	Sample Identification		
	FB_071211_19F (SDG: 280-17952-1)		<u>4</u>			
Ag	0.000018	0.00009	0.000015			
Tl	0.000033	0.000165	0.000042			

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC#: 25989A4

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: [Signature]
2nd Reviewer: [Signature]

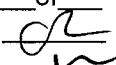
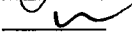
METHOD: Metals (EPA Method 6010B/7000)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	2	3		
Antimony	0.00082	0.00090	9	
Arsenic	0.00043	0.00042	2	
Barium	0.039	0.039	0	
Cadmium	0.00079	0.00068	15	
Cobalt	0.00013	0.00013	0	
Copper	0.00056U	0.00069	21	
Nickel	0.0026	0.0026	0	
Sodium	87	86	1	
Thallium	0.000037	0.000038	3	
Vanadium	0.00087	0.00087	0	
Zinc	0.0026	0.0029	11	

LDC#: 25989A4

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
 Reviewer: 
 2nd Reviewer: 

METHOD: Metals (EPA Method 6010B/7000)Y N NA Were field duplicate pairs identified in this SDG?Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤ 35)	
	5	6		
Antimony	0.000088	0.000074	17	
Arsenic	0.00042	0.00041	2	
Barium	0.038	0.039	3	
Cadmium	0.00081	0.00080	1	
Cobalt	0.00011	0.00011	0	
Copper	0.00056U	0.00058	4	
Nickel	0.0022	0.0023	4	
Sodium	86	87	1	
Thallium	0.000036	0.000035	3	
Vanadium	0.00080	0.00077	4	
Zinc	0.0031	0.0029	7	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011
Collection Date: July 14, 2011
LDC Report Date: August 12, 2011
Matrix: Water
Parameters: Fluoride & Perchlorate
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-18078-1

Sample Identification

RD-75_071411_01
RS-18_071411_01
RD-85_071411_01
RD-85_071411_36
RS-18_071411_01MS
RS-18_071411_01MSD
RS-18_071411_01DUP
RD-14_071411_01

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 300.0 for Fluoride and EPA Method 314.0 for Perchlorate.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

Raw data were not reviewed for this SDG. The review was based on QC data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No fluoride or perchlorate was found in the preparation blanks.

Sample FB_071211_19 (from SDG 280-17952) was identified as a field blank. No fluoride or perchlorate was found.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-18078-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

Samples RD-85_071411_01 and RD-85_071411_36 were identified as field duplicates. No fluoride or perchlorate was detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	RD-85_071411_01	RD-85_071411_36			
Fluoride	0.43	0.43	0 (≤35)	-	-

**Boeing SSFL GW 3rd Qtr, 2011
 Fluoride & Perchlorate - Data Qualification Summary - SDG 280-18078-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-18078-1	RD-75_071411_01 RS-18_071411_01 RD-85_071411_01 RD-85_071411_36 RD-14_071411_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 3rd Qtr, 2011
 Fluoride & Perchlorate - Laboratory Blank Data Qualification Summary - SDG 280-18078-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 3rd Qtr, 2011
 Fluoride & Perchlorate - Field Blank Data Qualification Summary - SDG 280-18078-1**

No Sample Data Qualified in this SDG

LDC #: 25989A6
 SDG #: 280-18078-1
 Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 8-11-11
 Page: 1 of 1
 Reviewer: *ca*
 2nd Reviewer: *ca*

METHOD: (Analyte) Fluoride (EPA Method 300.0), Perchlorate (EPA Method 314.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/14/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IV.	Matrix Spike/Matrix Spike Duplicates	A	MS/D
V.	Duplicates	A	D.P.
VI.	Laboratory control samples	A	LCSD
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	SW	(3,4)
X.	Field blanks	ND	FB = FB-071211-19 (SN: 280-17952-1)

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: *water*

1	RD-75_071411_01	11		21		31	
2	RS-18_071411_01	12		22		32	
3	RD-85_071411_01	13		23		33	
4	RD-85_071411_36	14		24		34	
5	RS-18_071411_01MS	15		25		35	
6	RS-18_071411_01MSD	16		26		36	
7	RS-18_071411_01DUP	17		27		37	
8	<i>RD-14_071411_01</i>	18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

LDC# 25989A6

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: [Signature]
2nd Reviewer: [Signature]

Inorganics, Method See Cover

- Y/N NA Were field duplicate pairs identified in this SDG?
 Y/N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤ 35)	
	3	4		
Fluoride	0.43	0.43	0	

V:\FIELD DUPLICATES\FD_inorganic\25989A6.wpd

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011
Collection Date: July 12, 2011
LDC Report Date: August 16, 2011
Matrix: Water
Parameters: Polynuclear Aromatic Hydrocarbons
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): IUG1059

Sample Identification

PZ-139_071211_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C using Selected Ion Monitoring (SIM) for Polynuclear Aromatic Hydrocarbons.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polynuclear aromatic hydrocarbon contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
11G2159-BLK1	7/19/11	Bis(2-ethylhexyl)phthalate	4.08 ug/L	PZ-139_071211_03

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

Sample EB_PZ-139_071111A (from SDG 280_17902-1) was identified as an equipment blank. No polynuclear aromatic hydrocarbon contaminants were found with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-139_071111A	7/11/11	Butylbenzylphthalate Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	0.016 ug/L 0.014 ug/L 0.035 ug/L 0.36 ug/L	All samples in SDG IUG1059

Sample FB_071211_19 (from SDG 280-17952-1) was identified as a field blank. No polynuclear aromatic hydrocarbon contaminants were found with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_071211_19	7/12/11	Butylbenzylphthalate Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	0.018 ug/L 0.018 ug/L 0.15 ug/L 0.35 ug/L	All samples in SDG IUG1059

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there was insufficient sample volume for analysis of the matrix spike and matrix spike duplicate.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUG1059	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Samples PZ-139_071211_01 (from SDG 280_17952-1) and PZ-139_071211_03 were identified as split samples. No polynuclear aromatic hydrocarbons were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	PZ-139_071211_01	PZ-139_071211_03			
Di-n-butylphthalate	0.011	10U	200 (≤35)	NQ	-
Diethylphthalate	0.11	10U	196 (≤35)	NQ	-
Di-n-octylphthalate	0.36	10U	186 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 3rd Qtr, 2011
Polynuclear Aromatic Hydrocarbons - Data Qualification Summary - SDG IUG1059

SDG	Sample	Compound	Flag	A or P	Reason
IUG1059	PZ-139_071211_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

Boeing SSFL GW 3rd Qtr, 2011
Polynuclear Aromatic Hydrocarbons - Laboratory Blank Data Qualification Summary - SDG IUG1059

No Sample Data Qualified in this SDG

Boeing SSFL GW 3rd Qtr, 2011
Polynuclear Aromatic Hydrocarbons - Field Blank Data Qualification Summary - SDG IUG1059

No Sample Data Qualified in this SDG

LDC #: 259892c
 SDG #: IUG1059
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 8/15/11
 Page: 1 of 1
 Reviewer: SVK
 2nd Reviewer: R

METHOD: GC/MS Polynuclear Aromatic Hydrocarbons (EPA SW846 Method 8270C-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>7/12/11</u>
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	<u>Insufficient vol.</u>
VIII.	Laboratory control samples	A	<u>LCS 'D</u>
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates <u>/split</u>	SW	<u>S = 1 + PZ-139-071211-01 (250-17952-1)</u>
XVII.	Field blanks	SW	<u>FB = FB-071211-19 (250-17952-1)</u>

EB = EB-PZ-139-071111A (250-17902-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: NATCY

1	PZ-139_071211_03	11	<u>11G 2/59 - blk</u>	21		31
2		12		22		32
3		13		23		33
4		14		24		34
5		15		25		35
6		16		26		36
7		17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis(2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes: * = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

VALIDATION FINDINGS WORKSHEET

Blanks

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)
 Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a method blank analyzed for each matrix?
 Y N N/A Was a method blank analyzed for each concentration preparation level?
 Y N N/A Was a method blank associated with every sample?
 Y N N/A Was the blank contaminated? if yes, please see qualification below.

Blank extraction date: 7/9/11 Blank analysis date: 7/21/11 Associated Samples: 1 (ND)

Compound	Blank ID	Sample Identification
	1162159-B/K1	
E2E	4.08	

Blank extraction date: _____ Blank analysis date: _____
 Conc. units: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

BLANKS.wpd

VALIDATION FINDINGS WORKSHEET
Field Split**METHOD:** GC MS SVOA (EPA SW 846 Method 8270C-SIM)Y/N NA Were field split pairs identified in this SDG?Y/N NA Were target analytes detected in the field split pairs?

Compound	Concentration (ug/L)		(<35) RPD	Qualifications (Parent only)
	PZ-139_071211_01	PZ-139_071211_03		
Di-n-butylphthalate	0.011	10U	200	NQ (<5RL)
Diethylphthalate	0.11	10U	196	NQ (<5RL)
Di-n-octylphthalate	0.36	10U	186	NQ (<5RL)

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011

Collection Date: July 12, 2011

LDC Report Date: August 16, 2011

Matrix: Water

Parameters: Polychlorinated Biphenyls

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUG1059

Sample Identification

PZ-139_071211-03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyls were found in the method blanks.

Sample EB_PZ-139_071111A (from SDG 280-17902-1) was identified as a trip blank. No polychlorinated biphenyl contaminants were found.

Sample FB_071211_19 (from SDG 280-17952-1) was identified as a field blank. No polychlorinated biphenyl contaminants were found.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

Raw data were not reviewed for this SDG.

XIII. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUG1059	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

No field duplicates were identified in this SDG.

Samples PZ-139_071211_03 and PZ-139_071211-01 (from SDG 280_17952-1) were identified as split samples. No polychlorinated biphenyls were detected in any of the samples.

**Boeing SSFL GW 3rd Qtr, 2011
 Polychlorinated Biphenyls - Data Qualification Summary - SDG IUG1059**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUG1059	PZ-139_071211-03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 3rd Qtr, 2011
 Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG IUG1059**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 3rd Qtr, 2011
 Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG IUG1059**

No Sample Data Qualified in this SDG

LDC #: 25989B3b
 SDG #: IUG1059
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 8/15/11
 Page: 1 of 1
 Reviewer: SVL
 2nd Reviewer: A

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/12/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS
IX.	Regional quality assurance and quality control	N	
X.	Florisil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation and reported CRQLs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates / split	ND	S = 1, PZ-139_071211-01 (250-17952-1)
XVI.	Field blanks	ND	FB = FB_071211-19 (250-17952-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	PZ-139_071211_03	11	11 G 1911 - B/K/1	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011
Collection Date: July 12, 2011
LDC Report Date: August 16, 2011
Matrix: Water
Parameters: Total Petroleum Hydrocarbons as Extractables
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): IUG1059

Sample Identification

PZ-139_071211-03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Total Petroleum Hydrocarbons (TPH) as Extractables.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as extractable contaminants were found in the method blanks.

Sample EB_PZ-139_071111A (from SDG 280-17902-1) was identified as an equipment blank. No total petroleum hydrocarbons as extractable contaminants were found.

Sample FB_071211_19 (from SDG 280_17952-1) was identified as a field blank. No total petroleum hydrocarbons as extractable contaminants were found.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there was insufficient sample volume for analysis of the matrix spike and matrix spike duplicate.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUG1059	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Samples PZ-139_071211-01 (from SDG 280_17952-1) and PZ-139_071211_03 were identified as split samples. No total petroleum hydrocarbons as extractables were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	PZ-139_071211_01	PZ-139_071211_03			
C21-C30	0.046	0.24	136 (≤ 35)	NQ	-

NQ = One or both results were $< 5x$ the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 3rd Qtr, 2011
 Total Petroleum Hydrocarbons as Extractables - Data Qualification Summary - SDG IUG1059**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUG1059	PZ-139_071211-03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

**Boeing SSFL GW 3rd Qtr, 2011
 Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data Qualification Summary - SDG IUG1059**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 3rd Qtr, 2011
 Total Petroleum Hydrocarbons as Extractables - Field Blank Data Qualification Summary - SDG IUG1059**

No Sample Data Qualified in this SDG

LDC #: 25989B8

VALIDATION COMPLETENESS WORKSHEET

Date: 8/15/11

SDG #: IUG1059

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: SVG

2nd Reviewer: n

METHOD: GC TPH as Extractables (EPA SW846 Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/12/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	Insufficient vol.
VII.	Laboratory control samples	A	LCS 1B
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates / Split	SW	S = 1 + PZ-139_071211_01 (280-17952-1)
XIII.	Field blanks	ND	FB = FB-071211-19 (280-17952-1) EB = EB-PZ-139_071111A (280-17902-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

WCA-1

1	PZ-139_071211_03	11	11G1957- B11c1	21	31
2		12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

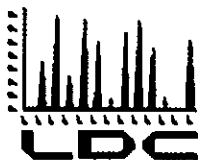
VALIDATION FINDINGS WORKSHEET
Field Split

METHOD: GC DRO (EPA SW 846 Method 8015B)

Y N NA Were field split pairs identified in this SDG?

X N NA Were target analytes detected in the field split pairs?

Compound	Concentration (mg/L)		(<35) RPD	Qualifications (Parent only)
	PZ-139_071211_01	PZ-139_071211_03		
C21-C30	0.046	0.24	136	NQ (<5RL)



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

September 1, 2011

SUBJECT: Boeing SSFL GW 3rd Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on August 9, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 26013:

SDG

Fraction

280-17952-1/IUG1365	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane,
280-18148-1/IUG1818	Semivolatiles, N-Nitrosodimethylamine,
280-18183-1/IUG1817	Polychlorinated Biphenyls, Metals, Wet Chemistry,
280-18230-1/IUG2058	Gasoline Range Organics, Diesel Range Organics,
280-17902-1/IUG1058	Perchlorate, Hydrazine

The data validation was performed under EPA Level IV/V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV LDC #26013 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 3rd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane (8260B-S)		1,2,3-TCP (524.2)		SVOA (8270C)		SVOA (8270C-SIM)		NDMA (1625)		PCBs (8082)		Metals (SW846)		Diss Metals (SW846)		GRO (8015B)		DRO (8015B)		CLO ₄ (6860)		Hydra-zine (DVWC)		1,1-DMH (DVWC 0077)		MMH (DVWC 0077)						
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S			
Matrix: Water/Soil																																						
A	280-17952-1/ IUG1365	08/09/11	08/30/11	13	0	10	0	4	0	4	0	2	0	4	0	1	0	4	0	5	0	4	0	4	0	4	0	1	0	1	0	3	0	1	0			
B	280-18148-1/ IUG1818	08/09/11	08/30/11	5	0	5	0	2	0	3	0	-	3	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0	3	0	3	0				
C	280-18183-1/ IUG1817	08/09/11	08/30/11	12	0	8	0	5	0	3	0	-	3	0	-	-	-	-	4	0	4	0	4	0	3	0	-	-	2	0	3	0	2	0	2	0		
D	280-18230-1/ IUG2058	08/09/11	08/30/11	10	0	10	0	3	0	6	0	-	7	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0	4	0	1	0	1	0		
E	280-17902-1/ IUG1058	08/10/11	08/30/11	11	0	6	0	3	0	4	0	1	0	4	0	1	0	3	0	5	0	-	-	-	-	-	-	-	-	2	0	2	0	-	-	-	-	
Total																																						
				51	0	39	0	17	0	20	0	3	0	21	0	2	0	11	0	14	0	4	0	16	0	1	0	9	0	15	0	7	0	0	0	0	0	230

EDD Client Select IV LDC #26013 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 3rd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	NH ₃ -N (350.1)		Cl SO ₄ (300.0)		F (300.0)		Br NO ₂ O-PO ₄		Cr(VI) (7196A)		CN- (9012A)		CLO ₄ (314.0)		pH (9040B)		S= (4500-S2 D)		Diss CLO ₄ (314.0)		NO ₂ (300.0)													
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S				
Matrix: Water/Soil																																					
A	280-17952-1	08/09/11	08/30/11	4	0	1	0	6	0	1	0	1	0	-	-	7	0	1	0	-	-	1	0	6	0												
B	280-18148-1	08/09/11	08/30/11	3	0	-	-	3	0	-	-	-	-	-	-	3	0	3	0	-	-	-	-	-	3	0											
C	280-18183-1	08/09/11	08/30/11	3	0	-	-	7	0	-	-	-	-	-	-	2	0	2	0	-	-	-	-	-	3	0											
D	280-18230-1	08/09/11	08/30/11	6	0	-	-	6	0	-	-	-	0	0	6	0	6	0	6	0	0	0	-	2	0												
D	280-18230-1	08/09/11	08/30/11	0	0	-	-	0	0	-	-	6	0	0	0	0	0	0	0	3	0	-	-	4	0												
E	280-17902-1	08/10/11	08/30/11	2	0	2	0	7	0	2	0	2	0	-	7	0	-	-	-	-	-	-	2	0	4	0											
Total																																					
				18	0	3	0	29	0	3	0	3	0	6	0	25	0	12	0	3	0	3	0	22	0	0	0	0	0	0	0	0	0	0	0	0	127

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011

Collection Date: July 11, 2011

LDC Report Date: August 25, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-17902-1

Sample Identification

RD-68B_071111_01
RD-68A_071111_01
RD-83_071111_01
PZ-139_071111_01
TB_PZ-139_071111
EB_PZ-139_071111A
RD-59A_071111_01
RD-59B_071111_01
TB_RD-59B_071111
RD-59C_071111_01
TB_RD-68B_071111
RD-59C_071111_01MS
RD-59C_071111_01MSD

Introduction

This data review covers 13 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Samples TB_FB_071211, TB_RD-08_071211, TB_RD-33B_071211, and TB_RD-34A_071211 were identified as trip blanks. No volatile contaminants were found with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
TB_PZ-139_071111	7/11/11	Acetone Tetrahydrofuran	5.0 ug/L 2.3 ug/L	PZ-139_071111_01 EB_PZ-139_071111A
TB_RD-59B_071111	7/11/11	Acetone	3.2 ug/L	RD-59A_071111_01 RD-59B_071111_01 RD-59C_071111_01
TB_RD-68B_071111	7/11/11	Acetone	4.5 ug/L	RD-68B_071111_01 RD-68A_071111_01 RD-83_071111_01

Sample EB_PZ-139_071111A was identified as an equipment blank. No volatile contaminants were found with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-139_071111A	7/11/11	Chloroform	0.30 ug/L	PZ-139_071111_01

Sample FB_071211_19 (from SDG 280-17952-1) was identified as a field blank. No volatile contaminants were found with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_071211_19	7/12/11	Acetone Chloroform	3.5 ug/L 0.45 ug/L	PZ-139_071111_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-139_071111_01	Acetone	3.4 ug/L	10U ug/L
RD-59A_071111_01	Acetone	4.1 ug/L	10U ug/L
RD-59B_071111_01	Acetone	3.4 ug/L	10U ug/L
RD-59C_071111_01	Acetone	2.2 ug/L	10U ug/L
RD-68B_071111_01	Acetone	2.3 ug/L	10U ug/L
RD-68A_071111_01	Acetone	4.4 ug/L	10U ug/L
RD-83_071111_01	Acetone	7.4 ug/L	10U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
RD-68A_071111_01	Toluene-d8	112 (88-110)	All TCL compounds	J (all detects)	P
RD-59C_071111_01	Dibromofluoromethane 1,2-Dichloroethane-d4	79 (86-118) 72 (80-120)	All TCL compounds	J (all detects) UJ (all non-detects)	P

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D 280-77489/4,5 (PZ-139_071111_01 TB_PZ-139_071111 EB_PZ-139_071111A MB 280-77489/6)	Cumene	-	126 (71-120)	-	J (all detects)	P

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-17902-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples PZ-139_071111_01 and PZ-139_071111_03 (from SDG IUG0829) were identified as split samples. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	PZ-139_071111_01	PZ-139_071111_03			
1,1-Dichloroethene	0.57	0.52	9 (≤35)	-	-
Acetone	3.4	10U	99 (≤35)	NQ	-
cis-1,2-Dichloroethene	9.7	9.9	2 (≤35)	-	-
trans-1,2-Dichloroethene	0.53	0.51	4 (≤35)	-	-
Trichloroethene	210	180	15 (≤35)	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 3rd Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-17902-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-17902-1	RD-68A_071111_01	All TCL compounds	J (all detects)	P	Surrogate spikes (%R) (S)
280-17902-1	RD-59C_071111_01	All TCL compounds	J (all detects) UJ (all non-detects)	P	Surrogate spikes (%R) (S)
280-17902-1	PZ-139_071111_01 TB_PZ-139_071111 EB_PZ-139_071111A	Cumene	J (all detects)	P	Laboratory control samples (%R) (L)
280-17902-1	RD-68B_071111_01 RD-68A_071111_01 RD-83_071111_01 PZ-139_071111_01 TB_PZ-139_071111 EB_PZ-139_071111A RD-59A_071111_01 RD-59B_071111_01 TB_RD-59B_071111 RD-59C_071111_01 TB_RD-68B_071111	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 3rd Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-17902-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 3rd Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-17902-1**

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-17902-1	PZ-139_071111_01	Acetone	10U ug/L	A	T,F
280-17902-1	RD-59A_071111_01	Acetone	10U ug/L	A	T
280-17902-1	RD-59B_071111_01	Acetone	10U ug/L	A	T
280-17902-1	RD-59C_071111_01	Acetone	10U ug/L	A	T
280-17902-1	RD-68B_071111_01	Acetone	10U ug/L	A	T
280-17902-1	RD-68A_071111_01	Acetone	10U ug/L	A	T
280-17902-1	RD-83_071111_01	Acetone	10U ug/L	A	T

LDC #: 26013E1a
 SDG #: 280-17902-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 8/18/11
 Page: 1 of 1
 Reviewer: NG
 2nd Reviewer: [Signature]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/11/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	SW	LCS 1/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/RT/LOQ/LODs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / Split	N	S = 4 + PZ-139_071111_03 (1UG0829)
XVII.	Field blanks	SW	TB = 5 9 11 EB = 6 FB = FB_071211-19

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

(From 280-17952-1)

Validated Samples:

Water

1	RD-68B_071111_01	11	TB RD-68B_071111	21	MB 280-76520/6	31	(FFF, 6666, II)
2	RD-68A_071111_01	12	RD-59C_071111_01MS	22	MB 280-77489/6	32	
3	RD-83_071111_01	13	RD-59C_071111_01MSD	23		33	
4	PZ-139_071111_01	14		24		34	
5	TB_PZ-139_071111	15		25		35	
6	EB_PZ-139_071111A	16		26		36	
7	RD-59A_071111_01	17		27		37	
8	RD-59B_071111_01	18		28		38	
9	TB_RD-59B_071111	19		29		39	
10	RD-59C_071111_01	20		30		40	

VOCs = 1-3, 7-11
 Spd W = 4-6

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC. 1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl chloride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN. <i>Cumene</i>
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO. <i>Tetrahydrofuran</i>
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

VALIDATION FINDINGS WORKSHEET
Field Splits

METHOD: GC MS VOA (EPA SW 846 Method 8260B)

Y N NA Were field split pairs identified in this SDG?
Y N NA Were target analytes detected in the field split pairs?

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent only)
	PZ-139_071111_01	PZ-139_071111_03		
1,1-Dichloroethene	0.57	0.52	9	
Acetone	3.4	10U	99	NQ (<5xRL)
cis-1,2-Dichloroethene	9.7	9.9	2	
trans-1,2-Dichloroethene	0.53	0.51	4	
Trichloroethene	210	180	15	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011
Collection Date: July 11, 2011
LDC Report Date: August 19, 2011
Matrix: Water
Parameters: 1,4-Dioxane
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-17902-1

Sample Identification

RD-68B_071111_01
RD-68A_071111_01
PZ-139_071111_01
TB_PZ-139_071111
EB_PZ-139_071111A
TB_RD-68B_071111

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-dioxane was found in the method blanks.

Samples TB_PZ-139_071111 and TB_RD-68B_071111 were identified as trip blanks. No 1,4-dioxane was found.

Sample EB_PZ-139_071111A was identified as an equipment blank. No 1,4-dioxane was found.

Sample FB_071211_19 (from SDG 280_17952-1) was identified as a trip blank. No 1,4-dioxane was found.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-17902-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Samples PZ-139_071111_01 and PZ-139_071111_03 (from SDG IUG 0829) were identified as split samples. No 1,4-dioxane was detected in any of the samples.

**Boeing SSFL GW 3rd Qtr, 2011
 1,4-Dioxane - Data Qualification Summary - SDG 280-17902-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-17902-1	RD-68B_071111_01 RD-68A_071111_01 PZ-139_071111_01 TB_PZ-139_071111 EB_PZ-139_071111A TB_RD-68B_071111	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

**Boeing SSFL GW 3rd Qtr, 2011
 1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-17902-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 3rd Qtr, 2011
 1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-17902-1**

No Sample Data Qualified in this SDG

LDC #: 26013E1b

VALIDATION COMPLETENESS WORKSHEET

Date: 8/18/11

SDG #: 280-17902-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JVG

2nd Reviewer: [Signature]

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/11/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS 1b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/RL/LOQ/LODs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / Split	ND	S = 3 + PZ-139_071111-03 (1UG089)
XVII.	Field blanks	ND	TB = 4, 6 EB = 5 FB = FB-071211-19

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

(from 280-17952-1)

Validated Samples:

Water

1	RD-68B_071111_01	11	MB 280-76757/5	21		31	
2	RD-68A_071111_01	12		22		32	
3	PZ-139_071111_01	13		23		33	
4	TB_PZ-139_071111	14		24		34	
5	EB_PZ-139_071111A	15		25		35	
6	TB_RD-68B_071111	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011

Collection Date: July 11, 2011

LDC Report Date: August 19, 2011

Matrix: Water

Parameters: 1,2,3-Trichloropropane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-17902-1/IUG1058

Sample Identification

RD-68B_071111_01
RD-68A_071111_01
TB_RD-68B_071111
RD-68B_071111_01DUP

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-trichloropropane was found in the method blanks.

Sample TB_RD-68B_071111 was identified as a trip blank. No 1,2,3-trichloropropane was found.

VI. Surrogate Spikes

Surrogate spikes were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-17902-1/UG1058	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 3rd Qtr, 2011

1,2,3-Trichloropropane - Data Qualification Summary - SDG 280-17902-1/IUG1058

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-17902-1/ IUG1058	RD-68B_071111_01 RD-68A_071111_01 TB_RD-68B_071111	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

Boeing SSFL GW 3rd Qtr, 2011

1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG 280-17902-1/IUG1058

No Sample Data Qualified in this SDG

Boeing SSFL GW 3rd Qtr, 2011

1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG 280-17902-1/IUG1058

No Sample Data Qualified in this SDG

METHOD: GC/MS 1,2,3-Trichloropropane (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/11/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates /Dup	N/A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 3

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinstate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	RD-68B_071111_01	11	11 G 1615-BLK1	21		31	
2	RD-68A_071111_01	12		22		32	
3	TB_RD-68B_071111	13		23		33	
4	RD-68B_071111_01DUP	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011

Collection Date: July 11, 2011

LDC Report Date: August 22, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-17902-1

Sample Identification

RD-68B_071111_01
RD-68A_071111_01
PZ-139_071111_01
EB_PZ-139_071111A

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-76390/1-A	7/13/11	Benzyl alcohol	0.834 ug/L	PZ-139_071111_01 EB_PZ-139_071111A
MB 280-76390/1-A	7/13/11	Bis(2-ethylhexyl)phthalate	2.04 ug/L	All samples in SDG 280-17902-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
RD-68B_071111_01	Bis(2-ethylhexyl)phthalate	3.0 ug/L	9.5U ug/L
RD-68A_071111_01	Bis(2-ethylhexyl)phthalate	2.2 ug/L	9.5U ug/L
PZ-139_071111_01	Bis(2-ethylhexyl)phthalate	2.5 ug/L	52U ug/L

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
EB_PZ-139_071111A	Benzyl alcohol Bis(2-ethylhexyl)phthalate	2.1 ug/L 3.9 ug/L	21U ug/L 53U ug/L

Sample EB_PZ-139_071111A was identified as an equipment blank. No semivolatile contaminants were found with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-139_071111A	7/11/11	Benzyl alcohol Diethylphthalate Bis(2-ethylhexyl)phthalate	2.1 ug/L 0.57 ug/L 3.9 ug/L	PZ-139_071111_01

Sample FB_071211_19 (from SDG 280-17952-1) was identified as a field blank. No semivolatile contaminants were found.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-139_071111_01	Bis(2-ethylhexyl)phthalate	2.5 ug/L	52U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-17902-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Samples PZ-139_071111_01 and PZ-139_071111_03 (from SDG IUG0829) were identified as split samples. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	PZ-139_071111_01	PZ-139_071111_03			
Bis(2-ethylhexyl)phthalate	2.5	50U	181 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 3rd Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-17902-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-17902-1	RD-68B_071111_01 RD-68A_071111_01 PZ-139_071111_01 EB_PZ-139_071111A	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

Boeing SSFL GW 3rd Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-17902-1

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-17902-1	RD-68B_071111_01	Bis(2-ethylhexyl)phthalate	9.5U ug/L	A	B
280-17902-1	RD-68A_071111_01	Bis(2-ethylhexyl)phthalate	9.5U ug/L	A	B
280-17902-1	PZ-139_071111_01	Bis(2-ethylhexyl)phthalate	52U ug/L	A	B
280-17902-1	EB_PZ-139_071111A	Benzyl alcohol Bis(2-ethylhexyl)phthalate	21U ug/L 53U ug/L	A	B

Boeing SSFL GW 3rd Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-17902-1

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-17902-1	PZ-139_071111_01	Bis(2-ethylhexyl)phthalate	52U ug/L	A	F

LDC #: 26013E2a

VALIDATION COMPLETENESS WORKSHEET

Date: 8/18/11

SDG #: 280-17902-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: *TVG*

2nd Reviewer: *[Signature]*

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/11/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS 1p
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / split	SW	S = 3 + PZ-139_071111_03 (1UG 0829)
XVII.	Field blanks	SW	EB = 4 FB* = FB_071211-19 (from 280-17902-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

*ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	RD-68B_071111_01	11	MB 280-76390/1-A	21	31
2	RD-68A_071111_01	12		22	32
3	PZ-139_071111_01	13		23	33
4	EB_PZ-139_071111A	14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

*Duplicates + NB = 1, 2
 Full W = 3, 4*

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobuladiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes:* = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

Blanks

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- Y N N/A Was a method blank analyzed for each matrix?
- Y N N/A Was a method blank analyzed for each concentration preparation level?
- Y N N/A Was a method blank associated with every sample?
- Y N N/A Was the blank contaminated? if yes, please see qualification below.

Blank extraction date: 7/15/11 Blank analysis date: 7/19/11

Conc. units: ug/L Associated Samples: All for EEE

3,4 for QQQ

Code: B

Compound	Blank ID	Sample Identification			
MB	280-76348	1	2	3	4
QQQ	0.834				2.1/214
EEE	2.04	3.0/1.54	2.2/9.54	2.5/524	3.9/534

4:17

Blank extraction date: _____ Blank analysis date: _____
 Conc. units: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification			

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Splits

METHOD: GC MS SVOCs (EPA SW 846 Method 8270C)

Y N NA Were field split pairs identified in this SDG?
Y N NA Were target analytes detected in the field split pairs?

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent only)
	PZ-139_071111_01	PZ-139_071111_03		
Bis(2-ethylhexyl)phthalate	2.5	50U	181	NQ (.5xRL)

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011

Collection Date: July 11, 2011

LDC Report Date: August 22, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-17902-1

Sample Identification

RD-68B_071111_01
RD-68A_071111_01
PZ-139_071111_01
EB_PZ-139_071111A

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Compound	Total Days From Sample Collection Until Extraction	Required Holding Time (in Days) From Sample Collection Until Extraction	Flag	A or P
EB_PZ-139_071111A	All TCL compounds	8	7	J (all detects) UJ (all non-detects)	P

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-nitrosodimethylamine was found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-77366/1-A	7/19/11	N-Nitrosodimethylamine	0.00649 ug/L	EB_PZ-139_071111A

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

Sample EB_PZ-139_071111A was identified as an equipment blank. No N-nitrosodimethylamine was found.

Sample FB_071211_19 (from SDG 280-17952-1) was identified as a field blank. No N-nitrosodimethylamine was found.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D280-76495/2,3-A (RD-68B_071111_01 RD-68A_071111_01 PZ-139_071111_01 MB 280-76495/1-A)	N-Nitrosodimethylamine	153 (68-124)	158 (68-124)	-	J (all detects)	P

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-17902-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Samples PZ-139_071111_01 and PZ-139_071111_03 (from SDG IUG0829) and samples PZ-139_071111_01 and PZ-139_071111_03RE (from SDG IUG0829) were identified as split samples. No N-nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	PZ-139_071111_01	PZ-139_071111_03			
N-Nitrosodimethylamine	0.0050U	0.0012	123 (≤35)	NQ	-

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	PZ-139_071111_01	PZ-139_071111_03RE			
N-Nitrosodimethylamine	0.0050U	0.0011	128 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 3rd Qtr, 2011

N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-17902-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-17902-1	EB_PZ-139_071111A	All TCL compounds	J (all detects) UJ (all non-detects)	P	Technical holding time (H)
280-17902-1	RD-68B_071111_01 RD-68A_071111_01 PZ-139_071111_01	N-Nitrosodimethylamine	J (all detects)	P	Laboratory control samples (%R) (L)
280-17902-1	RD-68B_071111_01 RD-68A_071111_01 PZ-139_071111_01 EB_PZ-139_071111A	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

Boeing SSFL GW 3rd Qtr, 2011

N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary – SDG 280-17902-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 3rd Qtr, 2011

N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-17902-1

No Sample Data Qualified in this SDG

LDC #: 26013E2b

VALIDATION COMPLETENESS WORKSHEET

Date: 8/18/11

SDG #: 280-17902-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: *VG*

2nd Reviewer: *[Signature]*

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 16250)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: 7/11/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	SW	LCS 1D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / Split	SWB	$S_1 = 3 + PZ-139_071111-03$ (1UG0829) $S_2 = 3 +$ RE
XVII.	Field blanks	ND	EB = 4 FB = FB_071211-19 (from 280-17902-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	RD-68B_071111_01	11	MB 280-76995 / 1-A	21		31
2	RD-68A_071111_01	12	MB 280-77966 / 1-A	22		32
3	PZ-139_071111_01	13		23		33
4	EB_PZ-139_071111A	14		24		34
5		15		25		35
6		16		26		36
7		17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

VALIDATION FINDINGS WORKSHEET
Field Splits

METHOD: GC MS NDMA (EPA Method 1625M)

Y N NA Were field split pairs identified in this SDG?
Y N NA Were target analytes detected in the field split pairs?

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent only)
	PZ-139_071111_01	PZ-139_071111_03		
NDMA	0.0050U	0.0012	123	NQ (.5xRL)

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent only)
	PZ-139_071111_01	PZ-139_071111_03RE		
NDMA	0.0050U	0.0011	128	NQ (.5xRL)

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011

Collection Date: July 11, 2011

LDC Report Date: August 22, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-17902-1

Sample Identification

EB_PZ-139_071111A

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C using Selected Ion Monitoring (SIM) for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-76691/1-A	7/14/11	Benzo(b)fluoranthene Benzo(a)pyrene Benzo(a)anthracene Benzo(k)fluoranthene Benzo(g,h,i)perylene Phenanthrene Dibenzo(a,h)anthracene Chrysene Fluoranthene Pyrene Indeno(1,2,3-cd)pyrene Butylbenzylphthalate Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	0.0358 ug/L 0.0308 ug/L 0.0352 ug/L 0.0349 ug/L 0.0456 ug/L 0.0106 ug/L 0.0367 ug/L 0.0327 ug/L 0.0282 ug/L 0.0276 ug/L 0.0374 ug/L 0.0292 ug/L 0.0225 ug/L 0.0216 ug/L 0.0353 ug/L	All samples in SDG 280-17902-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
EB_PZ-139_071111A	Butylbenzylphthalate Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	0.016 ug/L 0.014 ug/L 0.035 ug/L 0.36 ug/L	10U ug/L 10U ug/L 10U ug/L 10U ug/L

Sample EB_PZ-139_071111A was identified as an equipment blank. No semivolatile contaminants were found with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-139_071111A	7/11/11	Butylbenzylphthalate Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	0.016 ug/L 0.014 ug/L 0.035 ug/L 0.36 ug/L	No associated samples in this SDG

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-17902-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 3rd Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-17902-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-17902-1	EB_PZ-139_071111A	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

Boeing SSFL GW 3rd Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-17902-1

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-17902-1	EB_PZ-139_071111A	Butylbenzylphthalate Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	10U ug/L 10U ug/L 10U ug/L 10U ug/L	A	B

Boeing SSFL GW 3rd Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-17902-1

No Sample Data Qualified in this SDG

LDC #: 26013E2c **VALIDATION COMPLETENESS WORKSHEET**

SDG #: 280-17902-1

Laboratory: Test America, Inc.

Level V

Date: 8/18/11

Page: 1 of 1

Reviewer: *[Signature]*

2nd Reviewer: *[Signature]*

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/11/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS 10
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	EB = 1

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	EB PZ-139_071111A	11	MB 280-76691/LA	21	31
2		12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobuladiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	QOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes:* = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

VALIDATION FINDINGS WORKSHEET

LDC #: 26013 E2C
 SDG #: See Com

Page: 1 of 1
 Reviewer: MLG
 2nd Reviewer: [Signature]

Blanks

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- Y/N N/A Was a method blank analyzed for each matrix?
- Y/N N/A Was a method blank analyzed for each concentration preparation level?
- Y/N N/A Was a method blank associated with every sample?
- X N N/A Was the blank contaminated? If yes, please see qualification below.

Blank extraction date: 7/14/11 Blank analysis date: 7/25/11

Conc. units: ug/L Associated Samples: A11 Code: B

Compound	Blank ID	Sample Identification									
<i>ME</i>	280-76691	1-A									
GGG	0.0358										
III	0.0308										
CCC	0.0352										
HHH	0.0349										
LLL	0.0456										
UUU	0.0106										
KKK	0.0367										
DDD	0.0327										
YYY	0.0287										
ZZZ	0.0276										
JJJ	0.0374										
AAA	0.0292					0.016/10					
XX	0.0225					0.014/					
LL	0.0216					0.035/					
FFF	0.353					0.36/					

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011

Collection Date: July 11, 2011

LDC Report Date: August 19, 2011

Matrix: Water

Parameters: Polychlorinated Biphenyls

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-17902-1

Sample Identification

EB_PZ-139_071111A

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyls were found in the method blanks.

Sample EB_PZ-139_071111A was identified as an equipment blank. No polychlorinated biphenyl contaminants were found.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

Raw data were not reviewed for this SDG.

XIII. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-17902-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 3rd Qtr, 2011
 Polychlorinated Biphenyls - Data Qualification Summary - SDG 280-17902-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-17902-1	EB_PZ-139_071111A	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

**Boeing SSFL GW 3rd Qtr, 2011
 Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 280-17902-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 3rd Qtr, 2011
 Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG 280-17902-1**

No Sample Data Qualified in this SDG

LDC #: 26013E3b

VALIDATION COMPLETENESS WORKSHEET

Date: 8/18/11

SDG #: 280-17902-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: *YL*

2nd Reviewer: *[Signature]*

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/1/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS 1b
IX.	Regional quality assurance and quality control	N	
X.	Florisil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation/RL/LOQ/LODs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates	N	
XVI.	Field blanks	MB	EB = 1

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: *Water*

1	EB PZ-139_071111A	11	MB 280-76529/1-A	21	31
2		12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011
Collection Date: July 11, 2011
LDC Report Date: August 24, 2011
Matrix: Water
Parameters: Metals
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-17902-1

Sample Identification

RD-59A_071111_01
RD-59B_071111_01
RD-59C_071111_01
PZ-139_071111_01F
EB_PZ-139_071111AF
RD-59A_071111_01F
RD-59B_071111_01F
RD-59C_071111_01F
RD-59C_071111_01MS
RD-59C_071111_01MSD
PZ-139_071111_01FMS
PZ-139_071111_01FMSD
RD-59C_071111_01FMS
RD-59C_071111_01FMSD

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 14 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6020, 6010B and 7470A for Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No metal contaminants were found in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Antimony Lead Thallium Sodium	0.0000723 mg/L 0.000222 mg/L 0.0000826 mg/L 0.128 mg/L	RD-59A_071111_01 RD-59B_071111_01 RD-59C_071111_01
PB (prep blank)	Silver Thallium	0.0000313 mg/L 0.0000386 mg/L	PZ-139_071111_01F EB_PZ-139_071111AF RD-59A_071111_01F RD-59B_071111_01F RD-59C_071111_01F

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
RD-59A_071111_01	Antimony Thallium	0.000092 mg/L 0.00014 mg/L	0.000092U mg/L 0.00014U mg/L
RD-59C_071111_01	Thallium	0.00011 mg/L	0.00011U mg/L
PZ-139_071111_01F	Silver Thallium	0.000021 mg/L 0.000058 mg/L	0.000021U mg/L 0.000058U mg/L

Sample	Analyte	Reported Concentration	Modified Final Concentration
RD-59C_071111_01F	Thallium	0.000026 mg/L	0.000026U mg/L

Sample EB_PZ-139_071111AF was identified as an equipment blank. No metal contaminants were found with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_PZ-139_071111AF	7/11/11	Barium	0.00059 mg/L	PZ-139_071111_01F

Sample FB_071211_19F (from SDG 280-17952-1) was identified as a field blank. No metal contaminants were found with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_071211_19F	7/12/11	Silver Thallium	0.000018 mg/L 0.000033 mg/L	PZ-139_071111_01F

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
PZ-139_071111_01F	Silver Thallium	0.000021 mg/L 0.000058 mg/L	0.000021U mg/L 0.000058U mg/L

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution data were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-17902-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

Samples PZ-139_071111_01F and PZ-139_071111_03 (from SDG IUG0829) were identified as field duplicates. No metals were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	PZ-139_071111_01F	PZ-139_071111_03			
Arsenic	0.0011	0.0011	0 (≤ 35)	-	-
Barium	0.019	0.018	5 (≤ 35)	-	-
Boron	0.049	0.051	4 (≤ 35)	-	-

Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	PZ-139_071111_01F	PZ-139_071111_03			
Cadmium	0.000080	0.00010U	22 (≤35)	-	-
Calcium	57	66	15 (≤35)	-	-
Cobalt	0.00058	0.00068	16 (≤35)	-	-
Magnesium	28	31	10 (≤35)	-	-
Manganese	0.14	0.14	0 (≤35)	-	-
Molybdenum	0.0027	0.0029	7 (≤35)	-	-
Nickel	0.0052	0.0055	6 (≤35)	-	-
Potassium	2.3	2.1	9 (≤35)	-	-
Selenium	0.00070U	0.00095	30 (≤35)	-	-
Silver	0.000021	0.00010U	131 (≤35)	NQ	-
Sodium	130	120	8 (≤35)	-	-
Thallium	0.000058	0.00020U	110 (≤35)	NQ	-
Vanadium	0.0013	0.0010	26 (≤35)	-	-
Zinc	0.0042	0.0040U	5 (≤35)	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 3rd Qtr, 2011

Metals - Data Qualification Summary - SDG 280-17902-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-17902-1	RD-59A_071111_01 RD-59B_071111_01 RD-59C_071111_01 PZ-139_071111_01F EB_PZ-139_071111AF RD-59A_071111_01F RD-59B_071111_01F RD-59C_071111_01F	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

Boeing SSFL GW 3rd Qtr, 2011

Metals - Laboratory Blank Data Qualification Summary - SDG 280-17902-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-17902-1	RD-59A_071111_01	Antimony Thallium	0.000092U mg/L 0.00014U mg/L	A	B
280-17902-1	RD-59C_071111_01	Thallium	0.00011U mg/L	A	B
280-17902-1	PZ-139_071111_01F	Silver Thallium	0.000021U mg/L 0.000058U mg/L	A	B
280-17902-1	RD-59C_071111_01F	Thallium	0.000026U mg/L	A	B

Boeing SSFL GW 3rd Qtr, 2011

Metals - Field Blank Data Qualification Summary - SDG 280-17902-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-17902-1	PZ-139_071111_01F	Silver Thallium	0.000021U mg/L 0.000058U mg/L	A	F

LDC #: 26013E4

VALIDATION COMPLETENESS WORKSHEET

Date: 8/23/11

SDG #: 280-17902-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: [Signature]

2nd Reviewer: [Signature]

METHOD: Metals (EPA SW 846 Method 6020/7000) ^{60109/7470A}

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/11/11
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	A	MS/D
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	A	LCS/D
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	
XIV.	Field Duplicates	SW	(4, PZ-139_071111_03 (SDG: IUG0829))
XV.	Field Blanks	SW	EB=S ; FB= FB_071211_19F (SDG: 280-17952-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinse
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	RD-59A_071111_01	11	PZ-139_071111_01FMS	21		31	
2	RD-59B_071111_01	12	PZ-139_071111_01FMSD	22		32	
3	RD-59C_071111_01	13	RD-59C_071111_01FMS	23		33	
4	PZ-139_071111_01F	14	RD-59C_071111_01FMSD	24		34	
5	EB_PZ-139_071111AF	15		25		35	
6	RD-59A_071111_01F	16		26		36	
7	RD-59B_071111_01F	17		27		37	
8	RD-59C_071111_01F	18		28		38	
9	RD-59C_071111_01MS	19		29		39	
10	RD-59C_071111_01MSD	20		30		40	

Notes: Samples appended with "F" were analyzed for dissolved metals

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)

Soil preparation factor applied: NA

Associated Samples: 1-3

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Sb		0.0000723		0.0004	0.000092															
Pb		0.000222		0.0011																
Tl		0.0000826		0.0004	0.00014					0.00011										
Na		0.128		0.64																

Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 4-8

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Ag		0.0000313		0.0002	0.000021															
Tl		0.0000386		0.0002	0.000058					0.000026										

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

Field Blanks

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)

Y N N/A Were field blanks identified in this SDG?
 Y N N/A Were target analytes detected in the field blanks?

Blank units: mg/L **Associated sample units:** mg/L

Sampling date: 7/12/11 Soil factor applied NA

Field blank type: (circle one) Field Blank / Rinsate / Other: _____

Reason: F

Associated Samples: 4

Analyte	Blank ID	Action Limit	Sample Identification
	FB_071211_19F (SDG: 280-17952-1)		4
Ag	0.000018	0.00009	0.000021
Tl	0.000033	0.000165	0.000058

Blank units: mg/L **Associated sample units:** mg/L

Sampling date: 7/11/11 Soil factor applied NA

Field blank type: (circle one) Field Blank / Rinsate / Other: _____

Associated Samples: 4

Analyte	Blank ID	Action Limit	Sample Identification
	5		No Qualifiers
Ba	0.00059	0.00295	

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC#: 26013E4

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: [Signature]
2nd Reviewer: [Signature]

METHOD: Metals (EPA Method 6010B/7000)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	PZ-139_071111_01F 4	PZ-139_071111_03 (SDG: IUG0829)		
Arsenic	0.0011	0.0011	0	
Barium	0.019	0.018	5	
Boron	0.049	0.051	4	
Cadmium	0.000080	0.00010U	22	
Calcium	57	66	15	
Cobalt	0.00058	0.00068	16	
Magnesium	28	31	10	
Manganese	0.14	0.14	0	
Molybdenum	0.0027	0.0029	7	
Nickel	0.0052	0.0055	6	
Potassium	2.3	2.1	9	
Selenium	0.00070U	0.00095	30	
Silver	0.000021	0.00010U	131	NQ (<5xRL)
Sodium	130	120	8	
Thallium	0.000058	0.00020U	110	NQ (<5xRL)
Vanadium	0.0013	0.0010	26	
Zinc	0.0042	0.0040U	5	

V:\FIELD DUPLICATES\FD_inorganic\26013E4.wpd

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011
Collection Date: July 11, 2011
LDC Report Date: August 24, 2011
Matrix: Water
Parameters: Wet Chemistry
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-17902-1

Sample Identification

RD-68B_071111_01
RD-68A_071111_01
EB_PZ-074_071111
PZ-074_071111_01A
PZ-139_071111_01
EB_PZ-139_071111A
RD-59A_071111_01
RD-59B_071111_01
RD-59C_071111_01
RD-68A_071111_01MS
RD-68A_071111_01MSD
RD-68A_071111_01DUP
PZ-139_071111_01MS
PZ-139_071111_01MSD
PZ-139_071111_01DUP
RD-59C_071111_01MS
RD-59C_071111_01MSD
RD-59C_071111_01DUP

Introduction

This data review covers 18 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 350.1 for Ammonia as Nitrogen, EPA Method 300.0 for Bromide, Chloride, Fluoride, Nitrate, Nitrite, and Orthophosphate as Phosphorous, EPA Method 314.0 for Perchlorate, and EPA SW 846 Method 7196A for Hexavalent Chromium and Dissolved Hexavalent Chromium.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

Raw data were not reviewed for this SDG. The review was based on QC data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
PZ-139_071111_01	Hexavalent chromium Dissolved hexavalent chromium	25 hours	24 hours	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P
EB_PZ-139_071111A	Hexavalent chromium Dissolved hexavalent chromium	26.25 hours	24 hours	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P
PZ-139_071111_01MS PZ-139_071111_01MSD	Total hexavalent chromium	26.25 hours	24 hours	J (all detects) UJ (all non-detects)	P
PZ-139_071111_01DUP	Dissolved hexavalent chromium	26.25 hours	24 hours	J (all detects) UJ (all non-detects)	P

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
PB (prep blank)	Ammonia as N	0.132 mg/L	RD-68B_071111_01 RD-68A_071111_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
RD-68B_071111_01	Ammonia as N	0.11 mg/L	0.11U mg/L
RD-68A_071111_01	Ammonia as N	0.085 mg/L	0.085U mg/L

Samples EB_PZ-074_071111 and EB_PZ-139_071111A were identified as equipment blanks. No contaminant concentrations were found.

Sample FB_071211_19 (from SDG 280-17952-1) was identified as a field blank. No contaminant concentrations were found.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-17902-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

Samples PZ-139_071111_01 and PZ-139_071111_03B (from SDG IUG0829) were identified as field duplicates. No contaminant concentrations were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	PZ-139_071111_01	PZ-139_071111_03B			
Bromide	0.47	0.31	41 (≤35)	NQ	-
Chloride	24	27	12 (≤35)	-	-
Fluoride	1.3	1.4	7 (≤35)	-	-
Nitrate	3.6	3.8	5 (≤35)	-	-
Orthophosphate as P	0.14	0.57U	121 (≤35)	NQ	-
Sulfate	120	120	0 (≤35)	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 3rd Qtr, 2011
Fluoride - Data Qualification Summary - SDG 280-17902-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-17902-1	PZ-139_071111_01 EB_PZ-139_071111A	Hexavalent chromium Dissolved hexavalent chromium	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P	Technical holding time (H)
280-17902-1	RD-68B_071111_01 RD-68A_071111_01 EB_PZ-074_071111 PZ-074_071111_01A PZ-139_071111_01 EB_PZ-139_071111A RD-59A_071111_01 RD-59B_071111_01 RD-59C_071111_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 3rd Qtr, 2011
Fluoride - Laboratory Blank Data Qualification Summary - SDG 280-17902-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-17902-1	RD-68B_071111_01	Ammonia as N	0.11U mg/L	A	B
280-17902-1	RD-68A_071111_01	Ammonia as N	0.085U mg/L	A	B

**Boeing SSFL GW 3rd Qtr, 2011
Fluoride - Field Blank Data Qualification Summary - SDG 280-17902-1**

No Sample Data Qualified in this SDG

LDC #: 26013E6
 SDG #: 280-17902-1
 Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 8/23/11

Page: 1 of 1

Reviewer: [Signature]

2nd Reviewer: [Signature]

METHOD: Ammonia-N (EPA Method 350.1), Bromide, Chloride, Fluoride, Nitrate, Nitrite, Phosphate (EPA Method 300.0), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B), Hexavalent Chromium (SW846 EPA Method 7196A) ^{ortho} ^{PO4} Dissolved Cr

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: 7/11/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	SW	
IV.	Matrix Spike/Matrix Spike Duplicates	A	MS/D
V.	Duplicates	A	Dp
VI.	Laboratory control samples	A	LCSD
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	SW	CS, PZ-139-071111-03B (SD6: IUG0829)
X.	Field blanks	ND	EB=3,6; FB=FB-071211-19

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinstate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

CS06: 28017952-1

Validated Samples:

water

1	RD-68B_071111_01	11	RD-68A_071111_01MSD	21		31	
2	RD-68A_071111_01	12	RD-68A_071111_01DUP	22		32	
3	EB_PZ-074_071111	13	PZ-139_071111_01MS	23		33	
4	PZ-074_071111_01A	14	PZ-139_071111_01MSD	24		34	
5	PZ-139_071111_01	15	PZ-139_071111_01DUP	25		35	
6	EB_PZ-139_071111A	16	RD-59C_071111_01MS	26		36	
7	RD-59A_071111_01	17	RD-59C_071111_01MSD	27		37	
8	RD-59B_071111_01	18	RD-59C_071111_01DUP	28		38	
9	RD-59C_071111_01	19		29		39	
10	RD-68A_071111_01MS	20		30		40	

Notes: _____

VALIDATION FINDINGS WORKSHEET

Blanks

METHOD: Inorganics, Method See Cover

Page: 6 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were blank analyses performed as required? If no, please see qualifications below.

Y N N/A Were any activities in the blanks greater than the minimum detectable activity? If yes, please see qualifications below.

(B)

Conc. units: _____ Associated Samples: 1, 2

Analyte	Blank ID	Blank ID	Blank Action Limit
	PB	ICB/CCB (mg/L)	
NH3-N	0.132		0.66
		1	2
		0.11	0.085

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 All contaminants within five times the method blank concentration were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Inorganics, Method See Cover

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	PZ-139-074444_01 <u>5</u>	PZ-139_071111_03B (SDG: <u>UN</u> G0829)		
Bromide	0.47	0.31	41	<u>NA, (<5xRL)</u>
Chloride	24	27	12	
Fluoride	1.3	1.4	7	
Nitrate	3.6	3.8	5	
Orthophosphate as P	0.14	0.57U	121	<u>NQ, (<5xRL)</u>
Sulfate	120	120	0	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011

Collection Date: July 11, 2011

LDC Report Date: August 19, 2011

Matrix: Water

Parameters: Diesel Range Organics

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-17902-1

Sample Identification

RD-68B_071111_01
RD-68A_071111_01
EB_PZ-139_071111A

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Diesel Range Organics.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No diesel range organic contaminants were found in the method blanks.

Sample EB_PZ-139_071111A was identified as an equipment blank. No diesel range organic contaminants were found.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
RD-68B_071111_01	ortho-Terphenyl	116 (50-115)	All TCL compounds	J (all detects)	P
RD-68A_071111_01	ortho-Terphenyl	116 (50-115)	All TCL compounds	J (all detects)	P
MB 280-76450/1-A	ortho-Terphenyl	117 (50-115)	All TCL compounds	J (all detects)	P

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-17902-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 3rd Qtr, 2011
 Diesel Range Organics - Data Qualification Summary - SDG 280-17902-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-17902-1	RD-68B_071111_01 RD-68A_071111_01	All TCL compounds	J (all detects)	P	Surrogate spikes (%R) (S)
280-17902-1	RD-68B_071111_01 RD-68A_071111_01 EB_PZ-139_071111A	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

**Boeing SSFL GW 3rd Qtr, 2011
 Diesel Range Organics - Laboratory Blank Data Qualification Summary - SDG 280-17902-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 3rd Qtr, 2011
 Diesel Range Organics - Field Blank Data Qualification Summary - SDG 280-17902-1**

No Sample Data Qualified in this SDG

LDC #: 26013E8
 SDG #: 280-17902-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 8/12/11
 Page: 1 of 1
 Reviewer: SW
 2nd Reviewer: [Signature]

METHOD: GC Diesel Range Organics (EPA Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>7/11/11</u>
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	SW	
VI.	Matrix spike/Matrix spike duplicates	N	<u>client spec</u>
VII.	Laboratory control samples	A	<u>UCS / b</u>
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	<u>EB = 3</u>

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	RD-68B_071111_01	11		21		31	
2	RD-68A_071111_01	12		22		32	
3	EB_PZ-139_071111A	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011
Collection Date: July 11, 2011
LDC Report Date: August 19, 2011
Matrix: Water
Parameters: Hydrazines
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-17902-1

Sample Identification

RD-68B_071111_01
RD-68A_071111_01
PZ-139_071111_01
EB_PZ-139_071111A
RD-68B_071111_01MS
RD-68B_071111_01MSD

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DVWC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazines were found in the method blanks.

Sample EB_PZ-139_071111A was identified as an equipment blank. No hydrazines were found.

Sample FB_071211_19 (from SDG 280-17952-1) was identified as a field blank. No hydrazines were found.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-17902-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 3rd Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-17902-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-17902-1	RD-68B_071111_01 RD-68A_071111_01 PZ-139_071111_01 EB_PZ-139_071111A	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

**Boeing SSFL GW 3rd Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-17902-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 3rd Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-17902-1**

No Sample Data Qualified in this SDG

LDC #: 26013E76
 SDG #: 280-17902-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level ~~IV~~ V

Date: 8/18/11
 Page: 1 of 1
 Reviewer: SVL
 2nd Reviewer: [Signature]

METHOD: HPLC Hydrazines (Method DVWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

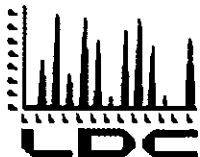
	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/11/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	A	
VII.	Laboratory control samples	A	LCS 1/D
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs		
X.	System Performance	✓	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	EB = 4 FB = FB_071211-19 (from 280-17952-1)

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: WATCY

1	RD-68B_071111_01	11	MB 280-76874/25	21		31	
2	RD-68A_071111_01	12		22		32	
3	PZ-139_071111_01	13		23		33	
4	EB_PZ-139_071111A	14		24		34	
5	RD-68B_071111_01MS	15		25		35	
6	RD-68B_071111_01MSD	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

September 1, 2011

SUBJECT: Boeing SSFL GW 3rd Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on August 9, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 26013:

<u>SDG #</u>	<u>Fraction</u>
280-17952-1/IUG1365	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane,
280-18148-1/IUG1818	Semivolatiles, N-Nitrosodimethylamine,
280-18183-1/IUG1817	Polychlorinated Biphenyls, Metals, Wet Chemistry,
280-18230-1/IUG2058	Gasoline Range Organics, Diesel Range Organics,
280-17902-1/IUG1058	Perchlorate, Hydrazine

The data validation was performed under EPA Level IV/V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV LDC #26013 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 3rd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane (8260B-S)		1,2,3-TCP (524.2)		SVOA (8270C)		SVOA (8270C-SIM)		NDMA (1625)		PCBs (8082)		Metals (SW846)		Diss Metals (SW846)		GRO (8015B)		DRO (8015B)		CLO ₄ (6860)		Hydra-zine (DVWC)		1,1-DMH (DVWC)		MMH (DVWC)			
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
Matrix: Water/Soil																																			
A	280-17952-1/ IUG1365	08/09/11	08/30/11	13	0	10	0	4	0	4	0	2	0	4	0	1	0	4	0	5	0	-	-	4	0	1	0	1	0	3	0	1	0		
B	280-18148-1/ IUG1818	08/09/11	08/30/11	5	0	5	0	2	0	3	0	-	-	3	0	-	-	-	-	-	-	-	-	3	0	-	-	3	0	3	0	3	0		
C	280-18183-1/ IUG1817	08/09/11	08/30/11	12	0	8	0	5	0	3	0	-	-	3	0	-	-	4	0	4	0	4	0	3	0	-	-	2	0	3	0	2	0		
D	280-18230-1/ IUG2058	08/09/11	08/30/11	10	0	10	0	3	0	6	0	-	-	7	0	-	-	-	-	-	-	-	-	3	0	-	-	1	0	4	0	1	0		
E	280-17902-1/ IUG1058	08/10/11	08/30/11	11	0	6	0	3	0	4	0	1	0	4	0	1	0	3	0	5	0	-	-	3	0	-	-	2	0	2	0	-	-		
Total				51	0	39	0	17	0	20	0	3	0	21	0	2	0	11	0	14	0	4	0	16	0	1	0	9	0	15	0	7	0	0	0

EDD Client Select IV LDC #26013 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 3rd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	NH ₃ -N (350.1)		Cl		F		Br		Cr(VI)		CN-		CLO ₄		pH		S=		NO ₂													
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S		
Matrix: Water/Soil																																			
A	280-17952-1	08/09/11	08/30/11	4	0	1	0	6	0	1	0	1	0	-	-	7	0	1	0	-	-	1	0	6	0										
B	280-18148-1	08/09/11	08/30/11	3	0	-	-	3	0	-	-	-	-	-	-	3	0	3	0	-	-	-	-	3	0										
C	280-18183-1	08/09/11	08/30/11	3	0	-	-	7	0	-	-	-	-	-	-	2	0	2	0	-	-	-	-	3	0										
D	280-18230-1	08/09/11	08/30/11	6	0	-	-	6	0	-	-	-	0	0	6	0	6	0	6	0	0	0	-	2	0										
D	280-18230-1	08/09/11	08/30/11	0	0	-	-	0	0	-	-	6	0	0	0	0	0	0	0	3	0	-	-	4	0										
E	280-17902-1	08/10/11	08/30/11	2	0	2	0	7	0	2	0	2	0	-	7	0	-	-	-	-	-	-	4	0											
Total				18	0	3	0	29	0	3	0	3	0	6	0	25	0	12	0	3	0	3	0	22	0	0	0	0	0	0	0	0	0	0	0

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011

Collection Date: July 12, 2011

LDC Report Date: August 25, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-17952-1

Sample Identification

RD-81_071211_01
FB_071211_19
TB_FB_071211
RD-08_071211_01
TB_RD-08_071211
RD-34C_071211_01
RD-34A_071211_01
HAR-19_071211_01
HAR-19_071211_36
RD-33B_071211_01
TB_RD-33B_071211
RD-33C_071211_01
TB_RD-34A_071211
RD-81_071211_01MS
RD-81_071211_01MSD

Introduction

This data review covers 15 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Samples TB_FB_071211, TB_RD-08_071211, TB_RD-33B_071211, and TB_RD-34A_071211 were identified as trip blanks. No volatile contaminants were found with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
TB_RD-33B_071211	7/12/11	Methylene chloride	0.53 ug/L	RD-33B_071211_01 RD-33C_071211_01
TB_RD-34A_071211	7/12/11	Methylene chloride	0.34 ug/L	RD-34C_071211_01 RD-34A_071211_01 HAR-19_071211_01 HAR-19_071211_36

Sample FB_071211_19 was identified as a field blank. No volatile contaminants were found with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_071211_19	7/12/11	Acetone Chloroform	3.5 ug/L 0.45 ug/L	No associated samples in this SDG

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
HAR-19_071211_01	Toluene-d8 Toluene-d8	111 (88-110) 112 (88-110)	All TCL compounds	J (all detects)	A
HAR-19_071211_36	Toluene-d8	112 (88-110)	All TCL compounds except cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene	J (all detects)	A

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
RD-81_071211_01MS/MSD (RD-81_071211_01)	Acetone	145 (48-130)	133 (48-130)	-	J (all detects)	A

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D 280-77489/4,5 (FB_071211_19 TB_FB_071211 MB 280-77489/6)	Cumene	-	126 (71-121)	-	J (all detects)	P

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-17952-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-19_071211_01 and HAR-19_071211_36 were identified as split samples. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-19_071211_01	HAR-19_071211_36			
1,1-Dichloroethene	0.77	0.86	11 (≤35)	-	-
Acetone	2.1	3.0	35 (≤35)	NQ	-

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-19_071211_01	HAR-19_071211_36			
Vinyl chloride	15	16	6 (≤35)	-	-
cis-1,2-Dichloroethene	320	270	17 (≤35)	-	-
trans-1,2-Dichloroethene	140	120	15 (≤35)	-	-
Trichloroethene	200	170	16 (≤35)	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 3rd Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-17952-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-17952-1	HAR-19_071211_01	All TCL compounds	J (all detects)	A	Surrogate spikes (%R) (S)
280-17952-1	HAR-19_071211_36	All TCL compounds except cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene	J (all detects)	A	Surrogate spikes (%R) (S)
280-17952-1	RD-81_071211_01	Acetone	J (all detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
280-17952-1	FB_071211_19 TB_FB_071211	Cumene	J (all detects)	P	Laboratory control samples (%R) (L)
280-17952-1	RD-81_071211_01 FB_071211_19 TB_FB_071211 RD-08_071211_01 TB_RD-08_071211 RD-34C_071211_01 RD-34A_071211_01 HAR-19_071211_01 HAR-19_071211_36 RD-33B_071211_01 TB_RD-33B_071211 RD-33C_071211_01 TB_RD-34A_071211	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

**Boeing SSFL GW 3rd Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-17952-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 3rd Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-17952-1**

No Sample Data Qualified in this SDG

LDC #: 26013A1a

VALIDATION COMPLETENESS WORKSHEET

Date: 8/18/11

SDG #: 280-17952-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: MC

2nd Reviewer: ✓

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/12/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	SW	LCS 1b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/RI/LOQ/LODs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	d = 8, 9
XVII.	Field blanks	SW	FB = 2 TB = 3, 5, 11, 13

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

*ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	RD-81_071211_01	11	TB_RD-33B_071211	21	MB 280 - 76520/6	31	(FFF, GGGG, II)
2	FB_071211_19	12	RD-33C_071211_01	22	MB 280 - 77489/6	32	
3	TB_FB_071211	13	TB_RD-34A_071211	23	MB 280 - 77823/6	33	
4	RD-08_071211_01	14	RD-81_071211_01MS	24		34	
5	TB_RD-08_071211	15	RD-81_071211_01MSD	25		35	
6	RD-34C_071211_01	16		26		36	
7	RD-34A_071211_01	17		27		37	
8	HAR-19_071211_01	18		28		38	
9	HAR-19_071211_36	19		29		39	
10	RD-33B_071211_01	20		30		40	

VOCS = 1, 4, 5, 5-
 STD W = 2, 3

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC. 1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl chloride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform*	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN. <i>Cumene</i>
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-isopropyltoluene	AAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GC MS VOA (EPA SW 846 Method 8260B)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent only)
	8	9		
1,1-Dichloroethene	0.77	0.86	11	
Acetone	2.1	3.0	35	NQ (<5xRL)
Vinyl chloride	15	16	6	
cis-1,2-Dichloroethene	320	270	17	
trans-1,2-Dichloroethene	140	120	15	
Trichloroethene	200	170	16	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011

Collection Date: July 12, 2011

LDC Report Date: August 19, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-17952-1

Sample Identification

RD-81_071211_01
FB_071211_19
TB_FB_071211
RD-08_071211_01
TB_RD-08_071211
RD-34C_071211_01
RD-34A_071211_01
HAR-19_071211_01
HAR-19_071211_36
TB_RD-34A_071211
RD-81_071211_01MS
RD-81_071211_01MSD

Introduction

This data review covers 12 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-dioxane was found in the method blanks.

Samples TB_FB_071211, TB_RD-08_071211, and TB_RD-34A_071211 were identified as trip blanks. No 1,4-dioxane was found.

Sample FB_071211_19 was identified as a field blank. No 1,4-dioxane was found.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-17952-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-19_071211_01 and HAR-19_071211_36 were identified as field duplicates. No 1,4-dioxane was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-19_071211_01	HAR-19_071211_36			
1,4-Dioxane	0.71	0.74	4 (≤35)	-	-

Boeing SSFL GW 3rd Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-17952-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-17952-1	RD-81_071211_01 FB_071211_19 TB_FB_071211 RD-08_071211_01 TB_RD-08_071211 RD-34C_071211_01 RD-34A_071211_01 HAR-19_071211_01 HAR-19_071211_36 TB_RD-34A_071211	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

Boeing SSFL GW 3rd Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-17952-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 3rd Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-17952-1

No Sample Data Qualified in this SDG

LDC #: 26013A1b
 SDG #: 280-17952-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 8/18/11
 Page: 1 of 1
 Reviewer: VC
 2nd Reviewer: VC

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>7/12/11</u>
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	<u>LCS 1b</u>
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/RL/LOQ/LODs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	<u>SW</u>	<u>D = 8, 9</u>
XVII.	Field blanks	<u>ND</u>	<u>FB = 2 TB = 3, 5, 10</u>

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

<u>1</u>	RD-81_071211_01	11	RD-81_071211_01MS	<u>21</u>	<u>MB 286-76757/5</u>	31
<u>2</u>	FB_071211_19	12	RD-81_071211_01MSD	<u>22</u>	<u>MB 286-77029/4</u>	32
<u>3</u>	TB_FB_071211	13		23		33
<u>4</u>	RD-08_071211_01	14		24		34
<u>5</u>	TB_RD-08_071211	15		25		35
<u>6</u>	RD-34C_071211_01	16		26		36
<u>7</u>	RD-34A_071211_01	17		27		37
<u>8</u>	HAR-19_071211_01 <u>D</u>	18		28		38
<u>9</u>	HAR-19_071211_36 <u>b</u>	19		29		39
<u>10</u>	TB_RD-34A_071211	20		30		40

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GC MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

Y N NA
Y N NA

Were field duplicate pairs identified in this SDG?
Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(±35%) RPD	Qualifications (Parent only)
	8	9		
1,4-Dioxane	0.71	0.74	4	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011
Collection Date: July 12, 2011
LDC Report Date: August 19, 2011
Matrix: Water
Parameters: 1,2,3-Trichloropropane
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-17952-1/IUG1365

Sample Identification

FB_071211_19
TB_FB_071211
RD-08_071211_01
TB_RD-08_071211
FB_071211_19DUP

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-trichloropropane was found in the method blanks.

Samples TB_FB_071211 and TB_RD-08_071211 were identified as trip blanks. No 1,2,3-trichloropropane was found.

Samples FB_071211_19 was identified as a field blank. No 1,2,3-trichloropropane was found.

VI. Surrogate Spikes

Surrogate spikes were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-17952-1/IUG1365	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 3rd Qtr, 2011

1,2,3-Trichloropropane - Data Qualification Summary - SDG 280-17952-1/IUG1365

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-17952-1/ IUG1365	FB_071211_19 TB_FB_071211 RD-08_071211_01 TB_RD-08_071211	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

Boeing SSFL GW 3rd Qtr, 2011

1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG 280-17952-1/IUG1365

No Sample Data Qualified in this SDG

Boeing SSFL GW 3rd Qtr, 2011

1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG 280-17952-1/IUG1365

No Sample Data Qualified in this SDG

METHOD: GC/MS 1,2,3-Trichloropropane (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/12/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates / Lab Dup	N/A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	NB	FB = 1 TB = 2, 4

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	FB_071211_19	11	11 G 2313 - B1K1	21	31
2	TB_FB_071211	12		22	32
3	RD-08_071211_01	13		23	33
4	TB_RD-08_071211	14		24	34
5	1 dup	15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011

Collection Date: July 12, 2011

LDC Report Date: August 22, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-17952-1

Sample Identification

FB_071211_19
RD-08_071211_01
HAR-19_071211_01
HAR-19_071211_36

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-76430/1-A	7/13/11	Bis(2-ethylhexyl)phthalate	0.733 ug/L	FB_071211_19 HAR-19_071211_01 HAR-19_071211_36

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
HAR-19_071211_01	Bis(2-ethylhexyl)phthalate	0.59 ug/L	9.5U ug/L
HAR-19_071211_36	Bis(2-ethylhexyl)phthalate	0.76 ug/L	9.5U ug/L

Sample FB_071211_19 was identified as a field blank. No semivolatile contaminants were found.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-17952-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-19_071211_01 and HAR-19_071211_36 were identified as field duplicates. No semivolatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-19_071211_01	HAR-19_071211_36			
Bis(2-ethylhexyl)phthalate	0.59	0.76	25 (≤35)	-	-
Diethylphthalate	9.5U	0.37	185 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 3rd Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-17952-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-17952-1	FB_071211_19 RD-08_071211_01 HAR-19_071211_01 HAR-19_071211_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

**Boeing SSFL GW 3rd Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-17952-1**

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-17952-1	HAR-19_071211_01	Bis(2-ethylhexyl)phthalate	9.5U ug/L	A	B
280-17952-1	HAR-19_071211_36	Bis(2-ethylhexyl)phthalate	9.5U ug/L	A	B

**Boeing SSFL GW 3rd Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-17952-1**

No Sample Data Qualified in this SDG

LDC #: 26013A2a

VALIDATION COMPLETENESS WORKSHEET

Date: 8/18/11

SDG #: 280-17952-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: *OVG*

2nd Reviewer: *[Signature]*

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/12/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS 6
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D = 3, 4
XVII.	Field blanks	ND	FB = 1

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	FB_071211_19	11	MB 280-76430 / 1-A	21	31
2	RD-08_071211_01	12		22	32
3	HAR-19_071211_01	13		23	33
4	HAR-19_071211_36	14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Full W = 1
 NB + A = 2
 Phthalates + NB = 3, 4

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(e)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes: * = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

VALIDATION FINDINGS WORKSHEET

Blanks

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- Y N N/A Was a method blank analyzed for each matrix?
- Y N N/A Was a method blank analyzed for each concentration preparation level?
- Y N N/A Was a method blank associated with every sample?
- Y N N/A Was the blank contaminated? If yes, please see qualification below.

Blank extraction date: 7/17/11 Blank analysis date: 7/20/11

Conc. units: ug/L Associated Samples: 1 3 4 Code: B

Compound	Blank ID	Sample Identification	
<u>MB</u>	<u>280-76430</u>	<u>1-A</u>	<u>4</u>
<u>EET</u>	<u>0.733</u>	<u>0.59 / 9.54</u>	<u>0.76 / 9.54</u>

Blank extraction date: _____ Blank analysis date: _____

Conc. units: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification	

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GC MS SVOCs (EPA SW 846 Method 8270C)

- N NA Were field duplicate pairs identified in this SDG?
- N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent only)
	3	4		
Bis(2-ethylhexyl)phthalate	0.59	0.76	25	
Diethylphthalate	9.5U	0.37	185	NQ (<5xRL)

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011

Collection Date: July 12, 2011

LDC Report Date: September 2, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-17952-1

Sample Identification

FB_071211_19

RD-08_071211_01

HAR-19_071211_01

HAR-19_071211_36

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Compound	Total Days From Sample Collection Until Extraction	Required Holding Time (in Days) From Sample Collection Until Extraction	Flag	A or P
RD-08_071211_01	N-nitrosodimethylamine	8	7	J (all detects) UJ (all non-detects)	P

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-nitrosodimethylamine was found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-77366/1-A	7/19/11	N-Nitrosodimethylamine	0.00649 ug/L	FB_071211_19
MB 280-77600/1-A	7/20/11	N-Nitrosodimethylamine	0.00647 ug/L	RD-08_071211_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

Samples FB_071211_19 and FB_HAR-19_071211_19 (from SDG 280-17952-2) were identified as field blanks. No N-nitrosodimethylamine was found.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D280-76495/2,3-A (HAR-19_071211_01 HAR-19_071211_36 MB 280-76495/1-A)	N-Nitrosodimethylamine	153 (68-124)	158 (68-124)	-	J (all detects)	P
LCS/D280-77600/2,3-A (RD-08_071211_01 MB 280-77600/1-A)	N-Nitrosodimethylamine	125 (68-124)	-	-	J (all detects)	P

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-17952-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-19_071211_01 and HAR-19_071211_36 were identified as field duplicates. No N-nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR-19_071211_01	HAR-19_071211_36			
N-Nitrosodimethylamine	0.0091	0.0091	0 (≤35)	-	-

Boeing SSFL GW 3rd Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-17952-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-17952-1	RD-08_071211_01	N-Nitrosodimethylamine	J (all detects) UJ (all non-detects)	P	Technical holding time (H)
280-17952-1	HAR-19_071211_01 HAR-19_071211_36 RD-08_071211_01	N-Nitrosodimethylamine	J (all detects)	P	Laboratory control samples (%R) (L)
280-17952-1	FB_071211_19 RD-08_071211_01 HAR-19_071211_01 HAR-19_071211_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

Boeing SSFL GW 3rd Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary – SDG 280-17952-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 3rd Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-17952-1

No Sample Data Qualified in this SDG

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625^M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: 7/12/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	SW	LCS 10
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D = 3, 4
XVII.	Field blanks	ND	FB = 1, FB = 1 + AR-19-07211-19

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

(SDG 280-17952-2)

Validated Samples:

Water

1	FB_071211_19	11	MB 280-76495/A	21		31
2	RD-08_071211_01	12	MB 280-77366/A	22		32
3	HAR-19_071211_01	13	MB 280-77600/A	23		33
4	HAR-19_071211_36	14		24		34
5		15		25		35
6		16		26		36
7		17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GC MS NDMA (EPA Method 1625M)

Y N NA

Were field duplicate pairs identified in this SDG?

Y N NA

Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(<35% RPD)	Qualifications (Parent only)
	3	4		
NDMA	0.0091	0.0091	0	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011

Collection Date: July 12, 2011

LDC Report Date: August 24, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-17952-1

Sample Identification

FB_071211_19
PZ-139_071211_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C using Selected Ion Monitoring (SIM) for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-76691/1-A	7/14/11	Benzo(b)fluoranthene Benzo(a)pyrene Benzo(a)anthracene Benzo(k)fluoranthene Benzo(g,h,i)perylene Phenanthrene Dibenzo(a,h)anthracene Chrysene Fluoranthene Pyrene Indeno(1,2,3-cd)pyrene Butylbenzylphthalate Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	0.0358 ug/L 0.0308 ug/L 0.0352 ug/L 0.0349 ug/L 0.0456 ug/L 0.0106 ug/L 0.0367 ug/L 0.0327 ug/L 0.0282 ug/L 0.0276 ug/L 0.0374 ug/L 0.0292 ug/L 0.0225 ug/L 0.0216 ug/L 0.0353 ug/L	All samples in SDG 280-17952-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
FB_071211_19	Butylbenzylphthalate Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	0.018 ug/L 0.018 ug/L 0.15 ug/L 0.35 ug/L	9.6U ug/L 9.6U ug/L 9.6U ug/L 9.6U ug/L
PZ-139_071211_01	Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	0.011 ug/L 0.11 ug/L 0.36 ug/L	10U ug/L 10U ug/L 10U ug/L

Sample EB_PZ-139_071111A (from SDG 280-17902-1) was identified as an equipment blank. No semivolatile contaminants were found with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-139_071111A	7/11/11	Butylbenzylphthalate Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	0.016 ug/L 0.014 ug/L 0.035 ug/L 0.36 ug/L	PZ-139_071211_01

Sample FB_071211_19 was identified as a field blank. No semivolatile contaminants were found with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_071211_19	7/11/11	Butylbenzylphthalate Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	0.018 ug/L 0.018 ug/L 0.15 ug/L 0.35 ug/L	PZ-139_071211_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-139_071211_01	Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	0.011 ug/L 0.11 ug/L 0.36 ug/L	10U ug/L 10U ug/L 10U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-17952-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Samples FB_071211_19 and PZ-139_071211_03 (from SDG IUG1059) were identified as split samples. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	FB_071211_19	PZ-139_071211_03			
Di-n-butylphthalate	0.011	10U	200 (≤35)	NQ	-
Diethylphthalate	0.11	10U	196 (≤35)	NQ	-
Di-n-octylphthalate	0.36	10U	186 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 3rd Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-17952-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-17952-1	FB_071211_19 PZ-139_071211_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

Boeing SSFL GW 3rd Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-17952-1

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-17952-1	FB_071211_19	Butylbenzylphthalate Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	9.6U ug/L 9.6U ug/L 9.6U ug/L 9.6U ug/L	A	B
280-17952-1	PZ-139_071211_01	Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	10U ug/L 10U ug/L 10U ug/L	A	B

Boeing SSFL GW 3rd Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-17952-1

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-17952-1	PZ-139_071211_01	Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	10U ug/L 10U ug/L 10U ug/L	A	F

LDC #: 26013A2c

VALIDATION COMPLETENESS WORKSHEET

Date: 8/18/11

SDG #: 280-17952-1

Level IV V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: NG

2nd Reviewer: [Signature]

METHOD: GC/MS ^{S VOC's} Polynuclear Aromatic Hydrocarbons (EPA SW846 Method 8270C-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/12/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS 1b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/RL/LOQ/LODs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / Split	SW	S = 2 + PZ-139_071211_03 (from 1UG1059)
XVII.	Field blanks	SW	FB = 1 EB = EB_PZ-139_071111A (280-17902-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: Water

1	FB_071211_19	11	11B 280-76691/A	21	31
2	PZ-139_071211_01	12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes:* = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

LDC #: 26013 A2c

SDG #: See Copy

VALIDATION FINDINGS WORKSHEET

Blanks

Page: 1 of 1
Reviewer: J/C
2nd Reviewer: [Signature]

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- Y/N N/A Was a method blank analyzed for each matrix?
- Y/N N/A Was a method blank analyzed for each concentration preparation level?
- Y/N N/A Was a method blank associated with every sample?
- Y/N N/A Was the blank contaminated? If yes, please see qualification below.

Blank extraction date: 7/14/11 Blank analysis date: 7/25/11

Conc. units: ug/L Associated Samples: A-11 Code: B

Compound	Blank ID	Sample Identification									
MIB	280-76691/1-A	1	2								
GGG	0.0358										
III	0.0308										
CCC	0.0352										
HHH	0.0349										
LLL	0.0456										
UUU	0.0106										
KKK	0.0367										
DDd	0.0327										
YY	0.0287										
ZZ	0.0276										
JJJ	0.0374										
AAA	0.0297	0.018/9.6 U									
XX	0.0225	0.018 / 0.011/10 U									
LL	0.0216	0.15 / 0.11 /									
FFF	0.353	0.35 / 0.36 /									

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Split

METHOD: GC MS SVOA (EPA SW 846 Method 8270C-SIM)

Y N NA Were field split pairs identified in this SDG?

Y N NA Were target analytes detected in the field split pairs?

Compound	Concentration (ug/L)		RPD	Qualifications (Parent only)
	PZ-139_071211_01	PZ-139_071211_03		
Di-n-butylphthalate	0.011	10U	200	NQ (<5RL)
Diethylphthalate	0.11	10U	196	NQ (<5RL)
Di-n-octylphthalate	0.36	10U	186	NQ (<5RL)

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011

Collection Date: July 12, 2011

LDC Report Date: August 19, 2011

Matrix: Water

Parameters: Polychlorinated Biphenyls

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-17952-1

Sample Identification

PZ-139_071211-01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyls were found in the method blanks.

Sample EB_PZ-139_071111A (from SDG 280-17902-1) was identified as an equipment blank. No polychlorinated biphenyl contaminants were found.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

Raw data were not reviewed for this SDG.

XIII. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-17952-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

No field duplicates were identified in this SDG.

Samples PZ-139_071211_01 and PZ-139_071211-03 (from SDG IUG1059) were identified as split samples. No polychlorinated biphenyls were detected in any of the samples.

**Boeing SSFL GW 3rd Qtr, 2011
 Polychlorinated Biphenyls - Data Qualification Summary - SDG 280-17952-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-17952-1	PZ-139_071211-01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

**Boeing SSFL GW 3rd Qtr, 2011
 Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 280-17952-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 3rd Qtr, 2011
 Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG 280-17952-1**

No Sample Data Qualified in this SDG

LDC #: 26013A3b

VALIDATION COMPLETENESS WORKSHEET

Date: 8/18/11

SDG #: 280-17952-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: *[Signature]*

2nd Reviewer: *[Signature]*

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/12/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS 1b
IX.	Regional quality assurance and quality control	N	
X.	Florisil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation/RL/LOQ/LODs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates /split	ND	S = 1 + PZ-139-071211_03 (from 1UG1059)
XVI.	Field blanks	ND	EB = EB-PZ-139-071111A (from 286-17952-1)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	PZ-139_071211_01	11	MB 280-76529/1A	21		31
2		12		22		32
3		13		23		33
4		14		24		34
5		15		25		35
6		16		26		36
7		17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011
Collection Date: July 12, 2011
LDC Report Date: August 24, 2011
Matrix: Water
Parameters: Metals
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-17952-1

Sample Identification

RD-34C_071211_01
RD-34A_071211_01
RD-33B_071211_01
RD-33C_071211_01
FB_071211_19F
RD-34C_071211_01F
RD-34A_071211_01F
RD-33B_071211_01F
RD-33C_071211_01F
RD-34C_071211_01MS
RD-34C_071211_01MSD
RD-34C_071211_01FMS
RD-34C_071211_01FMSD

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 13 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6020, 6010B and 7470A for Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No metal contaminants were found in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Thallium	0.0000237 mg/L	RD-34C_071211_01 RD-34A_071211_01 RD-33B_071211_01 RD-33C_071211_01
PB (prep blank)	Antimony	0.000108 mg/L	RD-34C_071211_01F RD-34A_071211_01F RD-33B_071211_01F RD-33C_071211_01F
PB (prep blank)	Thallium	0.0000210 mg/L	FB_071211_19F RD-34C_071211_01F RD-34A_071211_01F RD-33B_071211_01F RD-33C_071211_01F

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
RD-34C_071211_01	Thallium	0.000044 mg/L	0.000044U mg/L
RD-34A_071211_01	Thallium	0.000033 mg/L	0.000033U mg/L

Sample	Analyte	Reported Concentration	Modified Final Concentration
RD-34A_071211_01F	Antimony	0.000093 mg/L	0.000093U mg/L
FB_071211_19F	Thallium	0.000033 mg/L	0.000033U mg/L
RD-34C_071211_01F	Thallium	0.000042 mg/L	0.000042U mg/L
RD-34A_071211_01F	Thallium	0.000036 mg/L	0.000036U mg/L

Sample FB_071211_19F was identified as a field blank. No metal contaminants were found with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_071211_19F	7/12/11	Silver Thallium	0.000018 mg/L 0.000033 mg/L	No associated samples in this SDG

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
RD-34C_071211_01MS/MSD (RD-34C_071211_01 RD-34A_071211_01 RD-33B_071211_01 RD-33C_071211_01)	Selenium	-	74 (75-125)	-	J (all detects) UJ (all non-detects)	A

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution data were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-17952-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 3rd Qtr, 2011
Metals - Data Qualification Summary - SDG 280-17952-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-17952-1	RD-34C_071211_01 RD-34A_071211_01 RD-33B_071211_01 RD-33C_071211_01	Selenium	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
280-17952-1	RD-34C_071211_01 RD-34A_071211_01 RD-33B_071211_01 RD-33C_071211_01 FB_071211_19F RD-34C_071211_01F RD-34A_071211_01F RD-33B_071211_01F RD-33C_071211_01F	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 3rd Qtr, 2011
Metals - Laboratory Blank Data Qualification Summary - SDG 280-17952-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-17952-1	RD-34C_071211_01	Thallium	0.000044U mg/L	A	B
280-17952-1	RD-34A_071211_01	Thallium	0.000033U mg/L	A	B
280-17952-1	RD-34A_071211_01F	Antimony	0.000093U mg/L	A	B
280-17952-1	FB_071211_19F	Thallium	0.000033U mg/L	A	B
280-17952-1	RD-34C_071211_01F	Thallium	0.000042U mg/L	A	B
280-17952-1	RD-34A_071211_01F	Thallium	0.000036U mg/L	A	B

**Boeing SSFL GW 3rd Qtr, 2011
Metals - Field Blank Data Qualification Summary - SDG 280-17952-1**

No Sample Data Qualified in this SDG

LDC #: 26013A4
 SDG #: 280-17952-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 8-23-11

Page: 1 of 1

Reviewer: [Signature]

2nd Reviewer: [Signature]

METHOD: Metals (EPA SW 846 Method 6020/7000) ^{6010B/7470A}

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>7/12/11</u>
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	SW	MS/D
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	A	LCS/D
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	
XIV.	Field Duplicates	N	
XV.	Field Blanks	SW	FB=6

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: water

1	FB_071211_19	11	RD-34C_071211_01MS	21		31	
2	RD-34C_071211_01	12	RD-34C_071211_01MSD	22		32	
3	RD-34A_071211_01	13	RD-34C_071211_01FMS	23		33	
4	RD-33B_071211_01	14	RD-34C_071211_01FMSD	24		34	
5	RD-33C_071211_01	15		25		35	
6	FB_071211_19F	16		26		36	
7	RD-34C_071211_01F	17		27		37	
8	RD-34A_071211_01F	18		28		38	
9	RD-33B_071211_01F	19		29		39	
10	RD-33C_071211_01F	20		30		40	

Notes: Samples appended with "F" were analyzed for dissolved metals

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Soil preparation factor applied: NA Reason Code: B
Associated Samples: 2-5

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Sample Concentration units, unless otherwise noted: mg/L

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	Associated Samples:		
					2	3	
TI		0.0000237		0.0001	0.000044	0.000033	

Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 7-10

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	Associated Samples:		
					8		
Sb		0.000108		0.001	0.000093		

Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 6-10

Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (mg/L)	Maximum ICB/CCB ^a (ug/L)	Action Limit	Associated Samples:		
					6	7	8
TI		0.0000210		0.0001	0.000033	0.000042	0.000036

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note: a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 26013A4

Field Blanks

Reviewer: [Signature]
2nd Reviewer: [Signature]

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)

Y N N/A Were field blanks identified in this SDG?

Y N N/A Were target analytes detected in the field blanks?

Blank units: mg/L. **Associated sample units:** mg/L.

Sampling date: 7/12/11 Soil factor applied NA

Field blank type: (circle one) Field Blank / Rinsate / Other: _____

Reason: F

Associated Samples: None

Analyte	Blank ID	Action Limit	No Qualifiers	Sample Identification			
	6						
Ag	0.000018	0.00009					
Tl	0.000033	0.000165					

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011
Collection Date: July 12, 2011
LDC Report Date: August 24, 2011
Matrix: Water
Parameters: Wet Chemistry
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-17952-1

Sample Identification

FB_071211_19
RD-08_071211_01
RD-34C_071211_01
RD-34A_071211_01
HAR-19_071211_01
HAR-19_071211_36
RD-76_071211_01
RD-33B_071211_01
RD-33C_071211_01
FB_071211_19MS
FB_071211_19MSD
FB_071211_19DUP
RD-08_071211_01MS
RD-08_071211_01MSD
RD-08_071211_01DUP

Introduction

This data review covers 15 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 350.1 for Ammonia as Nitrogen, EPA Method 300.0 for Bromide, Chloride, Fluoride, Nitrate, Nitrite, and Orthophosphate, EPA Method 314.0 for Perchlorate, EPA SW 846 Method 9040B for pH, and EPA SW 846 Method 7196A for Hexavalent Chromium and Dissolved Hexavalent Chromium.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

Raw data were not reviewed for this SDG. The review was based on QC data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
FB_071211_19	Dissolved hexavalent chromium	31.55 hours	24 hours	J (all detects) UJ (all non-detects)	P
FB_071211_19MS FB_071211_19MSD	Total hexavalent chromium	31.55 hours	24 hours	J (all detects) UJ (all non-detects)	P
RD-08_071211_01	pH	48 hours	95 hours	J (all detects) UJ (all non-detects)	P

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
PB (prep blank)	Ammonia as N	0.132 mg/L	FB_071211_19 RD-08_071211_01 HAR-19_071211_01 HAR-19_071211_36

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
HAR-19_071211_01	Ammonia as N	0.077 mg/L	0.077U mg/L
HAR-19_071211_36	Ammonia as N	0.059 mg/L	0.059U mg/L

Sample FB_071211_19 was identified as a field blank. No contaminant concentrations were found.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-17952-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

Samples HAR-19_071211_01 and HAR-19_071211_36 were identified as field duplicates. No contaminant concentrations were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	HAR-19_071211_01	HAR-19_071211_36			
Ammonia as N	0.077	0.059	26 (≤35)	-	-

**Boeing SSFL GW 3rd Qtr, 2011
Fluoride - Data Qualification Summary - SDG 280-17952-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-17952-1	FB_071211_19	Dissolved hexavalent chromium	J (all detects) UJ (all non-detects)	P	Technical holding time (H)
280-17952-1	RD-08_071211_01	pH	J (all detects) UJ (all non-detects)	P	Technical holding time (H)
280-17952-1	FB_071211_19 RD-08_071211_01 RD-34C_071211_01 RD-34A_071211_01 HAR-19_071211_01 HAR-19_071211_36 RD-76_071211_01 RD-33B_071211_01 RD-33C_071211_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 3rd Qtr, 2011
Fluoride - Laboratory Blank Data Qualification Summary - SDG 280-17952-1**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-17952-1	HAR-19_071211_01	Ammonia as N	0.077U mg/L	A	B
280-17952-1	HAR-19_071211_36	Ammonia as N	0.059U mg/L	A	B

**Boeing SSFL GW 3rd Qtr, 2011
Fluoride - Field Blank Data Qualification Summary - SDG 280-17952-1**

No Sample Data Qualified in this SDG

LDC #: 26013A6
 SDG #: 280-17952-1
 Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 8/23/11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: Ammonia-N (EPA Method 350.1), Bromide, Chloride, Fluoride, Nitrate, Nitrite, ^{ortho-}Phosphate (EPA Method 300.0), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B), Hexavalent Chromium/^{Dissolved Hexavalent Cr} (SW846 EPA Method 7196A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: 7/12/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	SW	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/D
V	Duplicates	A	DUP
VI.	Laboratory control samples	A	LS/D
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	SW	(5,6)
X.	Field blanks	ND	FB=1

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: *water*

1	FB_071211_19	11	FB_071211_19MSD	21		31
2	RD-08_071211_01	12	FB_071211_19DUP	22		32
3	RD-34C_071211_01	13	RD-08_071211_01MS	23		33
4	RD-34A_071211_01	14	RD-08_071211_01MSD	24		34
5	HAR-19_071211_01	15	RD-08_071211_01DUP	25		35
6	HAR-19_071211_36	16		26		36
7	RD-76_071211_01	17		27		37
8	RD-33B_071211_01	18		28		38
9	^C RD-33B _071211_01	19		29		39
10	FB_071211_19MS	20		30		40

Notes: _____

LDC #: 2603A6

VALIDATION FINDINGS WORKSHEET Sample Specific Analysis Reference

Page: 1 of 1
Reviewer: [Signature]
2nd reviewer: [Signature]

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₂ Br Diss Cr ⁶⁺
2		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₂
3, 4		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₂
5, 6		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₂
7, 8, 9		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₂
QC: 10		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₂
11		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₂
12		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₂ Diss Cr ⁶⁺
13		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₂ Br
14		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₂ Br
15		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₂ Br
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₂
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₂
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₂
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₂
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₂
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₂
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₂
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₂
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₂
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₂
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₂
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₂
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₂
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₂
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₂
		pH TDS Cl F NO ₃ NO ₂ SO ₄ PO ₄ ALK CN NH ₃ TKN TOC CR ⁶⁺ ClO ₂

Comments: _____

VALIDATION FINDINGS WORKSHEET

Blanks

METHOD: Inorganics, Method See Cover

Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were blank analyses performed as required? If no, please see qualifications below.
Y N N/A Were any activities in the blanks greater than the minimum detectable activity? If yes, please see qualifications below.

Conc. units: Associated Samples: 1, 2, 5, 6 Reason Code: B

Analyte	Blank ID	Blank ID	Blank Action Limit
	PB	ICB/CCB (mg/L)	
NH3-N	0.132		0.66
		5	6
		0.077	0.059

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 All contaminants within five times the method blank concentration were qualified as not detected, "U".

LDC# 26013A6

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 11 of 11
Reviewer: [Signature]
2nd Reviewer: [Signature]

Inorganics, Method See Cover

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤ 35)	
	5	6		
Ammonia as N	0.077	0.059	26	

V:\FIELD DUPLICATES\FD_inorganic\26013A6.wpd

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011
Collection Date: July 12, 2011
LDC Report Date: August 19, 2011
Matrix: Water
Parameters: Diesel Range Organics
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-17952-1

Sample Identification

FB_071211_19
HAR-19_071211_01
HAR-19_071211_36
PZ-139_071211_01

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Diesel Range Organics.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No diesel range organic contaminants were found in the method blanks.

Sample EB_PZ-139_071111A (from SDG 280-17902-1) was identified as an equipment blank. No diesel range organic contaminants were found.

Sample FB_071211_19 was identified as a field blank. No diesel range organic contaminants were found.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
HAR-19_071211_01	ortho-Terphenyl	117 (50-115)	All TCL compounds	J (all detects)	P
HAR-19_071211_36	ortho-Terphenyl	119 (50-115)	All TCL compounds	J (all detects)	P
MB 280-76450/1-A	ortho-Terphenyl	117 (50-115)	All TCL compounds	J (all detects)	P

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-17952-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples HAR-19_071211_01 and HAR-19_071211_36 were identified as field duplicates. No diesel range organics were detected in any of the samples with the following exceptions:

Compound	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	HAR-19_071211_01	HAR-19_071211_36			
C15-C20	0.060	0.034	55 (≤35)	NQ	-
C8-C30	0.074	0.074U	0 (≤35)	-	-

Samples PZ-139_071211_01 and PZ-139_071211_03 (from SDG IUG1059) were identified as split samples. No diesel range organics were detected in any of the samples with the following exceptions:

Compound	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	PZ-139_071211_01	PZ-139_071211_03			
C21-C30	0.046	0.24	136 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

**Boeing SSFL GW 3rd Qtr, 2011
 Diesel Range Organics - Data Qualification Summary - SDG 280-17952-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-17952-1	HAR-19_071211_01 HAR-19_071211_36	All TCL compounds	J (all detects)	P	Surrogate spikes (%R) (S)
280-17952-1	FB_071211_19 HAR-19_071211_01 HAR-19_071211_36 PZ-139_071211_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

**Boeing SSFL GW 3rd Qtr, 2011
 Diesel Range Organics - Laboratory Blank Data Qualification Summary - SDG 280-17952-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 3rd Qtr, 2011
 Diesel Range Organics - Field Blank Data Qualification Summary - SDG 280-17952-1**

No Sample Data Qualified in this SDG

LDC #: 26013A8
 SDG #: 280-17952-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 8/18/11
 Page: 1 of 1
 Reviewer: JG
 2nd Reviewer: [Signature]

EPA SW 846 Method 8015B

METHOD: GC Diesel Range Organics (Oklahoma Department of Environmental Quality)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>7/12/11</u>
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	SW	
VI.	Matrix spike/Matrix spike duplicates	N	<u>client spec</u>
VII.	Laboratory control samples	A	<u>LCS 1b</u>
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates / <u>Split</u>	SW	<u>D = 2, 3</u> <u>S = 4 + PZ-139_071211_03 (from 1UG1059)</u>
XIII.	Field blanks	ND	<u>FB = 1</u> <u>EB = EB PZ-139_071111A (from 280-17902)</u>

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: Water

1	FB 071211_19	11	<u>MPB 280-76450 / -A</u>	21	31
2	HAR-19_071211_01 <u>D</u>	12		22	32
3	HAR-19_071211_36 <u>D</u>	13		23	33
4	PZ-139_071211_01	14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GC DRO (EPA SW 846 Method 8015B)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (mg/L)		($\leq 35\%$) RPD	Qualifications (Parent only)
	2	3		
C15-C20	0.060	0.034	55	<i>no L5A</i>
C8-C30	0.074	0.074U	0	

VALIDATION FINDINGS WORKSHEET
Field Split

METHOD: GC DRO (EPA SW 846 Method 8015B)

Y N NA Were field split pairs identified in this SDG?

Y N NA Were target analytes detected in the field split pairs?

Compound	Concentration (mg/L)		(<35) RPD	Qualifications (Parent only)
	PZ-139_071211_01	PZ-139_071211_03		
C21-C30	0.046	0.24	136	NQ (<5RL)

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011

Collection Date: July 12, 2011

LDC Report Date: August 19, 2011

Matrix: Water

Parameters: Hydrazines

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-17952-1

Sample Identification

FB_071211_19
HAR-19_071211_01
HAR-19_071211_36
FB_071211_19MS
FB_071211_19MSD

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DVWC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazines were found in the method blanks.

Sample FB_071211_19 was identified as a field blank. No hydrazines were found.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-17952-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples HAR-19_071211_01 and HAR-19_071211_36 were identified as field duplicates. No hydrazines were detected in any of the samples.

**Boeing SSFL GW 3rd Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-17952-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-17952-1	FB_071211_19 HAR-19_071211_01 HAR-19_071211_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

**Boeing SSFL GW 3rd Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-17952-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 3rd Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-17952-1**

No Sample Data Qualified in this SDG

LDC #: 26013A76

VALIDATION COMPLETENESS WORKSHEET



Date: 8/18/11

SDG #: 280-17952-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: 
2nd Reviewer: 

METHOD: HPLC Hydrazines (Method DVWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/12/11
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	N	
VI.	Matrix spike/Matrix spike duplicates	A	
VII.	Laboratory control samples	A	LCS 1p
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	ND	D = 2, 3
XIII.	Field blanks	ND	FB = 1

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	FB_071211_19	11	MB 280-77504/25	21	31
2	HAR-19_071211_01	D		22	32
3	HAR-19_071211_36	D		23	33
4	FB_071211_19MS			24	34
5	FB_071211_19MSD			25	35
6				26	36
7				27	37
8				28	38
9				29	39
10				30	40

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011

Collection Date: July 12, 2011

LDC Report Date: September 1, 2011

Matrix: Water

Parameters: Perchlorate

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-17952-1

Sample Identification

FB_071211_19

FB_071211_19MS

FB_071211_19MSD

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 6860 for Perchlorate.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No perchlorate was found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound	Concentration	Associated Samples
MB 280-76980/4	7/14/11	Perchlorate	0.0101 ug/L	FB_071211_19

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

Sample FB_071211_19 was identified as a field blank. No perchlorate was found.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-17952-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 3rd Qtr, 2011
 Perchlorate - Data Qualification Summary - SDG 280-17952-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-17952-1	FB_071211_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

**Boeing SSFL GW 3rd Qtr, 2011
 Perchlorate - Laboratory Blank Data Qualification Summary - SDG 280-17952-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 3rd Qtr, 2011
 Perchlorate - Field Blank Data Qualification Summary - SDG 280-17952-1**

No Sample Data Qualified in this SDG

LDC #: 26013A87
 SDG #: 280-17952-2
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 8/18/11
 Page: 1 of 1
 Reviewer: JG
 2nd Reviewer: ✓

METHOD: LC/MS Perchlorate (EPA SW846 Method 6860)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

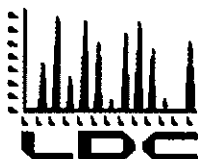
	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/12/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	↓	
IV.	Continuing calibration/ICV	↓	
V.	Blanks	SW	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCC
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	↓	
XI.	Target compound identification	↓	
XII.	Compound quantitation/CRQLs	↓	
XIII.	Tentatively identified compounds (TICs)	↓	
XIV.	System performance	↓	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	FB = 1

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

1	FB_071211_19	11	MB 280-76980/4	21		31
2	FB_071211_19MS	12		22		32
3	FB_071211_19MSD	13		23		33
4		14		24		34
5		15		25		35
6		16		26		36
7		17		27		37
8		18		28		38
9		19		29		39
10		20		30		40



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

September 1, 2011

SUBJECT: Boeing SSFL GW 3rd Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on August 9, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 26013:

SDG

Fraction

280-17952-1/IUG1365	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane,
280-18148-1/IUG1818	Semivolatiles, N-Nitrosodimethylamine,
280-18183-1/IUG1817	Polychlorinated Biphenyls, Metals, Wet Chemistry,
280-18230-1/IUG2058	Gasoline Range Organics, Diesel Range Organics,
280-17902-1/IUG1058	Perchlorate, Hydrazine

The data validation was performed under EPA Level IV/V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

Client Select IV LDC #26013 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 3rd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane (8260B-S)		1,2,3-TCP (524.2)		SVOA (8270C)		SVOA (8270C-SIM)		NDMA (1625)		PCBs (8082)		Metals (SW846)		Diss Metals (SW846)		GRO (8015B)		DRO (8015B)		CLO ₄ (6860)		Hydra-zine (DVWC)		1,1-DMH (DVWC 0077)		MMH (DVWC 0077)						
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S			
Matrix: Water/Soil																																						
A	280-17952-1/ IUG1365	08/09/11	08/30/11	13	0	4	0	4	0	2	0	4	0	1	0	4	0	5	0	4	0	5	0	4	0	4	0	1	0	1	0	3	0	1	0			
B	280-18148-1/ IUG1818	08/09/11	08/30/11	5	0	2	0	3	0	-	-	3	0	-	-	-	-	-	-	-	-	-	-	-	-	3	0	-	-	3	0	3	0	3	0			
C	280-18183-1/ IUG1817	08/09/11	08/30/11	12	0	5	0	3	0	-	-	3	0	-	-	4	0	4	0	4	0	4	0	4	0	3	0	-	-	2	0	3	0	2	0			
D	280-18230-1/ IUG2058	08/09/11	08/30/11	10	0	3	0	6	0	-	-	7	0	-	-	-	-	-	-	-	-	-	-	-	3	0	-	-	1	0	4	0	1	0				
E	280-17902-1/ IUG1058	08/10/11	08/30/11	11	0	3	0	4	0	1	0	4	0	1	0	3	0	5	0	3	0	5	0	4	0	3	0	-	-	2	0	2	0	-	-			
Total																																						
				51	0	39	0	17	0	20	0	3	0	21	0	2	0	11	0	14	0	4	0	4	0	16	0	1	0	9	0	15	0	7	0	0	0	230

Client Select IV LDC #26013 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 3rd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	NH ₃ -N (350.1)		Cl SO ₄ (300.0)		F (300.0)		Br NO ₂ O-PO ₄		Cr(VI) (7196A)		CN- (9012A)		CLO ₄ (314.0)		pH (9040B)		S= (4500-S2 D)		Diss CLO ₄ (314.0)		NO ₃ (300.0)													
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S				
Matrix: Water/Soil																																					
A	280-17952-1	08/09/11	08/30/11	4	0	1	0	6	0	1	0	1	0	-	-	7	0	1	0	-	-	1	0	6	0												
B	280-18148-1	08/09/11	08/30/11	3	0	-	-	3	0	-	-	-	-	-	-	3	0	3	0	-	-	-	-	3	0												
C	280-18183-1	08/09/11	08/30/11	3	0	-	-	7	0	-	-	-	-	-	-	2	0	2	0	-	-	-	-	3	0												
D	280-18230-1	08/09/11	08/30/11	6	0	-	-	6	0	-	-	-	-	0	0	6	0	6	0	0	0	0	0	2	0												
D	280-18230-1	08/09/11	08/30/11	0	0	-	-	0	0	-	-	-	6	0	0	0	0	0	0	0	3	0	-	4	0												
E	280-17902-1	08/10/11	08/30/11	2	0	2	0	7	0	2	0	2	0	-	-	7	0	-	-	-	-	2	0	4	0												
Total																																					
				18	0	3	0	29	0	3	0	3	0	6	0	25	0	12	0	3	0	3	0	22	0	0	0	0	0	0	0	0	0	0	0	0	127

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011

Collection Date: July 15, 2011

LDC Report Date: August 19, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-18148-1

Sample Identification

RD-02_071511_01
RD-52B_071511_01
TB_RD-52B_071511
RD-01_071511_01
TB_RD-01_071511
RD-02_071511_01MS
RD-02_071511_01MSD

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-dioxane was found in the method blanks.

Samples TB_RD-52B_071511 and TB_RD-01_071511 were identified as trip blanks. No 1,4-dioxane was found.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-18148-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 3rd Qtr, 2011
 1,4-Dioxane - Data Qualification Summary - SDG 280-18148-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-18148-1	RD-02_071511_01 RD-52B_071511_01 TB_RD-52B_071511 RD-01_071511_01 TB_RD-01_071511	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

**Boeing SSFL GW 3rd Qtr, 2011
 1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-18148-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 3rd Qtr, 2011
 1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-18148-1**

No Sample Data Qualified in this SDG

LDC #: 26013B1b

VALIDATION COMPLETENESS WORKSHEET

Date: 8/18/11

SDG #: 280-18148-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: VB2nd Reviewer: [Signature]

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 8/12/11 7/15/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS 1b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/RL/LOQ/LODs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	MD	TB = 3 5

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	RD-02_071511_01	11	MB 280-77693/5	21		31
2	RD-52B_071511_01	12		22		32
3	TB_RD-52B_071511	13		23		33
4	RD-01_071511_01	14		24		34
5	TB_RD-01_071511	15		25		35
6	RD-02_071511_01MS	16		26		36
7	RD-02_071511_01MSD	17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011

Collection Date: July 15, 2011

LDC Report Date: August 19, 2011

Matrix: Water

Parameters: 1,2,3-Trichloropropane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-18148-1/IUG1818

Sample Identification

RD-52B_071511_01
TB_RD-52B_071511

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-trichloropropane was found in the method blanks.

Sample TB_RD-52B_071511 was identified as a trip blank. No 1,2,3-trichloropropane was found.

VI. Surrogate Spikes

Surrogate spikes were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-18148-1//UG1818	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 3rd Qtr, 2011

1,2,3-Trichloropropane - Data Qualification Summary - SDG 280-18148-1/IUG1818

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-18148-1/ IUG1818	RD-52B_071511_01 TB_RD-52B_071511	All compounds reported below the RL.	J (all detects)	. A	Compound quantitation and RLs (TR)

Boeing SSFL GW 3rd Qtr, 2011

1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG 280-18148-1/IUG1818

No Sample Data Qualified in this SDG

Boeing SSFL GW 3rd Qtr, 2011

1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG 280-18148-1/IUG1818

No Sample Data Qualified in this SDG

METHOD: GC/MS 1,2,3-Trichloropropane (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/15/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 2

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	RD-52B_071511_01	11	11 G 2891- B1K1	21	31
2	TB_RD-52B_071511	12		22	32
3		13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011
Collection Date: July 15, 2011
LDC Report Date: August 24, 2011
Matrix: Water
Parameters: Volatiles
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-18148-1

Sample Identification

RD-02_071511_01
RD-52B_071511_01
TB_RD-52B_071511
RD-01_071511_01
TB_RD-01_071511

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Samples TB_RD-52B_071511 and TB_RD-01_071511 were identified as trip blanks. No volatile contaminants were found.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
RD-02_071511_01	Toluene-d8 Toluene-d8	112 (88-110) 114 (88-110)	All TCL compounds	J (all detects)	A
RD-52B_071511_01	Toluene-d8	111 (88-110)	All TCL compounds	J (all detects)	P
RD-01_071511_01	Toluene-d8 Toluene-d8	116 (88-110) 111 (88-110)	All TCL compounds	J (all detects)	A
TB_RD-01_071511	Toluene-d8	112 (88-110)	All TCL compounds	J (all detects)	P

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D 280-78257/4,5 (All samples in SDG 280-18148-1)	Acetone	-	136 (48-130)	-	J (all detects)	P

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-18148-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 3rd Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-18148-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-18148-1	RD-02_071511_01 RD-01_071511_01	All TCL compounds	J (all detects)	A	Surrogate spikes (%R) (S)
280-18148-1	RD-52B_071511_01 TB_RD-01_071511	All TCL compounds	J (all detects)	P	Surrogate spikes (%R) (S)
280-18148-1	RD-02_071511_01 RD-52B_071511_01 TB_RD-52B_071511 RD-01_071511_01 TB_RD-01_071511	Acetone	J (all detects)	P	Laboratory control samples (%R) (L)
280-18148-1	RD-02_071511_01 RD-52B_071511_01 TB_RD-52B_071511 RD-01_071511_01 TB_RD-01_071511	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 3rd Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-18148-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 3rd Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-18148-1

No Sample Data Qualified in this SDG

LDC #: 26013B1a

VALIDATION COMPLETENESS WORKSHEET

Date: 8/18/11

SDG #: 280-18148-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: *SV*2nd Reviewer: *SV*

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/15/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	SW	LCS / D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/RL/LOQ/LODs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	TB = 3, 5

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	RD-02_071511_01	11	MB 280-78257/6	21	31
2	RD-52B_071511_01	12		22	32
3	TB_RD-52B_071511	13		23	33
4	RD-01_071511_01	14		24	34
5	TB_RD-01_071511	15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC. 1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl chloride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

VALIDATION FINDINGS WORKSHEET
Surrogate Spikes

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
 Y N/A Were all surrogate %R within QC limits?
 Y N/A If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R out of outside of criteria?

#	Date	Sample ID	Surrogate	%Recovery (Limits)	Qualifications
		1	TOL	112 (88-110)	J dets / A (qual all except 000, S) 000: S
		1 (BFB)	TOL	114 ()	↓ (qual 000, S only)
		2	TOL	111 ()	J dets / P (all TOL)
		4	TOL	116 ()	J dets / A (all except 000, S)
		4 (DFM)	TOL	111 ()	↓ (qual 000, S only)
		5	TOL	112 ()	J dets / P (all TOL)
				()	
				()	
				()	
				()	
				()	
				()	
				()	
				()	
				()	
				()	
				()	

QC Limits (Soil)
 85-115
 85-120
 60-120
 75-125

QC Limits (Water)
 85-120
 75-120
 70-120
 85-115

SMC1 (TOL) = Toluene-d8
 SMC2 (BFB) = Bromofluorobenzene
 SMC3 (DCE) = 1,2-Dichloroethane-d4
 SMC4 (DFM) = Dibromofluoromethane

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011

Collection Date: July 15, 2011

LDC Report Date: August 22, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-18148-1

Sample Identification

RD-02_071511_01
RD-52B_071511_01
RD-01_071511_01

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Compound	Total Days From Sample Collection Until Extraction	Required Holding Time (in Days) From Sample Collection Until Extraction	Flag	A or P
RD-02_071511_01 RD-52B_071511_01 RD-01_071511_01	N-nitrosodimethylamine	14	7	J (all detects) UJ (all non-detects)	P

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-nitrosodimethylamine was found in the method blanks.

Samples FB_RD-02_071511_19 and FB_RD-01_071511_19 (both from SDG 280-18148-2) were identified as field blanks. No semivolatile contaminants were found.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-18148-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RD-02_071511_01 and RD-02_071511_36 (from SDG 280-18148-2) and samples RD-01_071511_01 and RD-01_071511_36 (from SDG 280-18148-2) were identified as field duplicates. No N-nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	RD-02_071511_01	RD-02_071511_36			
N-Nitrosodimethylamine	0.0090	0.0077	16 (≤35)	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	RD-01_071511_01	RD-01_071511_36			
N-Nitrosodimethylamine	0.0096	0.010	4 (≤35)	-	-

Boeing SSFL GW 3rd Qtr, 2011

N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-18148-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-18148-1	RD-02_071511_01 RD-52B_071511_01 RD-01_071511_01	N-nitrosodimethylamine	J (all detects) UJ (all non-detects)	P	Technical holding time (H)
280-18148-1	RD-02_071511_01 RD-52B_071511_01 RD-01_071511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

Boeing SSFL GW 3rd Qtr, 2011

N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary – SDG 280-18148-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 3rd Qtr, 2011

N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-18148-1

No Sample Data Qualified in this SDG

LDC #: 26013B2b

VALIDATION COMPLETENESS WORKSHEET

Date: 8/8/11

SDG #: 280-18148-1

Level V

Page: 6 of 7

Laboratory: Test America, Inc.

Reviewer: *[Signature]*

2nd Reviewer: *[Signature]*

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625^M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: 7/15/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS ID
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D ₁ = 1 + RD-02-071511-36 D ₂ = 3 + RD-01-071511-36 > (280-18148-2)
XVII.	Field blanks	ND	FB = FB-RD-02-071511-19 ↓ = FB-RD-01-071511-19

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: *Water*

1	RD-02_071511_01	11	MB 280-79070/A	21		31	
2	RD-52B_071511_01	12		22		32	
3	RD-01_071511_01	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GC MS NDMA (EPA Method 1625M)

- N N A Were field duplicate pairs identified in this SDG?
- N N A Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent only)
	RD-02_071511_01	RD-02_071511_36		
NDMA	0.0090	0.0077	16	

Compound	Concentration (ug/L)		(<35%) RPD	Qualifications (Parent only)
	RD-01_071511_01	RD-01_071511_36		
NDMA	0.0096	0.010	4	

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011

Collection Date: July 15, 2011

LDC Report Date: August 22, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-18148-1

Sample Identification

RD-02_071511_01
RD-52B_071511_01
RD-01_071511_01

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-77126/1-A	7/18/11	Bis(2-ethylhexyl)phthalate	2.13 ug/L	RD-52B_071511_01 RD-01_071511_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
RD-52B_071511_01	Bis(2-ethylhexyl)phthalate	2.1 ug/L	9.5U ug/L
RD-01_071511_01	Bis(2-ethylhexyl)phthalate	2.1 ug/L	9.5U ug/L

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-18148-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 3rd Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-18148-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-18148-1	RD-02_071511_01 RD-52B_071511_01 RD-01_071511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

Boeing SSFL GW 3rd Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-18148-1

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-18148-1	RD-52B_071511_01	Bis(2-ethylhexyl)phthalate	9.5U ug/L	A	B
280-18148-1	RD-01_071511_01	Bis(2-ethylhexyl)phthalate	9.5U ug/L	A	B

Boeing SSFL GW 3rd Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-18148-1

No Sample Data Qualified in this SDG

LDC #: 26013B2a

VALIDATION COMPLETENESS WORKSHEET

Date: 8/18/11

SDG #: 280-18148-1

Level V

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: *SL*

2nd Reviewer: *[Signature]*

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/15/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	255 1P
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Validated

1	RD-02_071511_01	11	MB 280-77126 A-A	21		31
2	RD-52B_071511_01	12		22		32
3	RD-01_071511_01	13		23		33
4		14		24		34
5		15		25		35
6		16		26		36
7		17		27		37
8		18		28		38
9		19		29		39
10		20		30		40

$NB + A = 1$
 $Phthalates = 2$
 $Phthalates + NB = 3$

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(e)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-dl-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes:* = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

Blanks

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- Y N N/A Was a method blank analyzed for each matrix?
- Y N N/A Was a method blank analyzed for each concentration preparation level?
- Y N N/A Was a method blank associated with every sample?
- Y N N/A Was the blank contaminated? If yes, please see qualification below.

Blank extraction date: 7/13/11 Blank analysis date: 7/21/11

Conc. units: ug/L Associated Samples: 2 3 Code: B

Compound	Blank ID	Sample Identification	
<u>MB</u>	<u>280-77120</u>	<u>1-A</u>	<u>3</u>
<u>DEE</u>	<u>2.13</u>	<u>2.1/9.5U</u>	<u>2.1/9.5U</u>

Blank extraction date: _____ Blank analysis date: _____

Conc. units: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification	

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011

Collection Date: July 15, 2011

LDC Report Date: August 24, 2011

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-18148-1

Sample Identification

RD-02_071511_01
RD-52B_071511_01
RD-01_071511_01
RD-02_071511_01DUP
RD-01_071511_01MS
RD-01_071511_01MSD

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 350.1 for Ammonia as Nitrogen, EPA Method 300.0 for Fluoride and Nitrate, EPA Method 314.0 for Perchlorate, and EPA SW 846 Method 9040B for pH.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

Raw data were not reviewed for this SDG. The review was based on QC data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
RD-02_071511_01 RD-52B_071511_01 RD-01_071511_01 RD-02_071511_01DUP	pH	7 days	48 hours	J (all detects) UJ (all non-detects)	P

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the initial, continuing and preparation blanks.

No field blanks were identified in this SDG.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-18148-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 3rd Qtr, 2011
 Fluoride - Data Qualification Summary - SDG 280-18148-1**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-18148-1	RD-02_071511_01 RD-52B_071511_01 RD-01_071511_01	pH	J (all detects) UJ (all non-detects)	P	Technical holding time (H)
280-18148-1	RD-02_071511_01 RD-52B_071511_01 RD-01_071511_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

**Boeing SSFL GW 3rd Qtr, 2011
 Fluoride - Laboratory Blank Data Qualification Summary - SDG 280-18148-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 3rd Qtr, 2011
 Fluoride - Field Blank Data Qualification Summary - SDG 280-18148-1**

No Sample Data Qualified in this SDG

LDC #: 26013B6
 SDG #: 280-18148-1
 Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET
 Level V

Date: 8-23-11
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: Ammonia-N (EPA Method 350.1), Fluoride, Nitrate (EPA Method 300.0), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: 7/15/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IV.	Matrix Spike/Matrix Spike Duplicates	A	MS/D
V.	Duplicates	A	DP
VI.	Laboratory control samples	A	LS/D
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

1	RD-02_071511_01	11		21		31	
2	RD-52B_071511_01	12		22		32	
3	RD-01_071511_01	13		23		33	
4	RD-02_071511_01DUP	14		24		34	
5	RD-01_071511_01MS	15		25		35	
6	RD-01_071511_01MSD	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing SSFL GW 3rd Qtr, 2011
Collection Date: July 15, 2011
LDC Report Date: August 19, 2011
Matrix: Water
Parameters: Diesel Range Organics
Validation Level: Level V
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): 280-18148-1

Sample Identification

RD-02_071511_01
RD-52B_071511_01
RD-01_071511_01

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Diesel Range Organics.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No diesel range organic contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and RLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-18148-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Boeing SSFL GW 3rd Qtr, 2011
 Diesel Range Organics - Data Qualification Summary - SDG 280-18148-1**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-18148-1	RD-02_071511_01 RD-52B_071511_01 RD-01_071511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (TR)

**Boeing SSFL GW 3rd Qtr, 2011
 Diesel Range Organics - Laboratory Blank Data Qualification Summary - SDG 280-18148-1**

No Sample Data Qualified in this SDG

**Boeing SSFL GW 3rd Qtr, 2011
 Diesel Range Organics - Field Blank Data Qualification Summary - SDG 280-18148-1**

No Sample Data Qualified in this SDG

LDC #: 26013B8
 SDG #: 280-18148-1
 Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 8/18/11

Page: 1 of 1

Reviewer: SV

2nd Reviewer: W

EPA SW 846 Method 8015 B

METHOD: GC Diesel Range Organics (Oklahoma Department of Environmental Quality)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>7/15/11</u>
II.	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	<i>Client Spec.</i>
VII.	Laboratory control samples	A	<i>LCs 1b</i>
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

Water

1	RD-02_071511_01	11	<i>MD 280-77128/1-A</i>	21	31
2	RD-52B_071511_01	12		22	32
3	RD-01_071511_01	13		23	33
4		14		24	34
5		15		25	35
6		16		26	36
7		17		27	37
8		18		28	38
9		19		29	39
10		20		30	40

Notes: _____

