State Water Resources Control Board

UST CASE CLOSURE REVIEW SUMMARY REPORT

Agency Information

Agency Name: Central Valley Regional Water Quality Control Board (Regional Water Board)	Address: 11020 Sun Center Drive # 200, Rancho Cordova, CA 95670
Agency Caseworker: Emily Cushman	Case No.: 170058

Case Information

USTCF Claim No.: 15154	GeoTracker Global ID: T0603300038
Site Name: Dale's Shell & Automotive	Site Address: 15021 Lakeshore Drive, Clearlake, CA 95422
Responsible Parties: Patricia Morris Estate, Attn: Billy Morris, Administrator and Brenda Begor c/o Marc Begor	Addresses: Private Addresses
USTCF Expenditures to Date: $974,492	Number of Years Case Open: 20

URL: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0603300038

Summary

The Low-Threat Underground Storage Tank (UST) Case Closure Policy (Policy) contains general and media-specific criteria, and cases that meet those criteria are appropriate for closure pursuant to the Policy. This case meets all of the required criteria of the Policy. A summary evaluation of compliance with the Policy is shown in **Attachment 1: Compliance with State Water Board Policies and State Law**. The Conceptual Site Model upon which the evaluation of the case has been made is described in **Attachment 2: Summary of Basic Case Information (Conceptual Site Model).** Highlights of the case follow:

This case is a former commercial petroleum fueling facility. An unauthorized leak was reported in May 1993. Soil vapor extraction was conducted intermittently between March 2007 and October 2009, which reportedly removed approximately 6,500 pounds of total petroleum hydrocarbons as gasoline (TPHg). Ozone injection was conducted for 60 days in 2008. Fifteen groundwater monitoring wells were installed and monitored irregularly since 2001. According to groundwater data, water quality objectives have been achieved or nearly achieved for all constituents except TPHg, benzene, and methyl tert-butyl ether (MTBE).

According to data available in GeoTracker, there are no supply wells regulated by California Department of Public Health or surface water bodies within 1,000 feet of the defined plume boundary. No other water supply wells have been identified within 1,000 feet of the defined plume boundary in files reviewed. Water is provided to water users near the Site by the Highlands Mutual Water Company. The affected groundwater is not currently being used as a source of drinking water, and it is highly unlikely that the affected groundwater will be used as a source of drinking

water in the foreseeable future. Other designated beneficial uses of impacted groundwater are not threatened and it is highly unlikely that they will be, considering these factors in the context of the site setting. Remaining petroleum hydrocarbon constituents are limited and stable, and concentrations are decreasing. Corrective actions have been implemented and additional corrective actions are not necessary. Any remaining petroleum hydrocarbon constituents do not pose a significant risk to human health, safety or the environment.

Rationale for Closure under the Policy

- General Criteria: The case meets all eight Policy general criteria.
- Groundwater Specific Criteria: The case meets Policy Criterion 1 by Class 4. The contaminant plume that exceeds water quality objectives is projected to be less than 500 feet in length. There is no free product. The nearest water supply well or surface water body is greater than 1,000 feet from the defined plume boundary. The dissolved concentration of benzene is less than 1,000 micrograms per liter (µg/L) and the dissolved concentration of MTBE is less than 1,000 µg/L.
- Vapor Intrusion to Indoor Air: The case meets Policy Criterion 2a by Scenario 4 with no bioattenuation zone. The maximum benzene and ethylbenzene concentrations in soil gas at five feet below ground surface (bgs) are less than 0.280 µg/L (280 micrograms per cubic meter [µg/m^3]) and 3.6 µg/L (3,600 µg/m^3), respectively. These levels meet the Commercial soil gas criteria. Additionally, sub-slab samples have been collected. The sub-slab samples reported maximum concentrations of benzene and ethylbenzene of 0.0077 µg/L (7.7 µg/m^3) and 0.19 µg/L (190 µg/m^3), respectively. These levels are below California Human Health Screening Levels (CHHSLs) for commercial use. The Site and adjacent properties are commercial properties. There are no soil vapor sample results in the case record for naphthalene. However, the relative concentration of naphthalene in soil vapor can be conservatively estimated using the published relative concentrations of naphthalene and benzene in gasoline, especially considering naphthalene's lower volatility. Taken from Potter and Simmons (1998), gasoline mixtures contain approximately 2 percent benzene and 0.25 percent naphthalene. Therefore, benzene can be directly substituted for naphthalene concentrations with a safety factor of at least eight. Benzene concentrations from the Site are below the naphthalene thresholds in the Policy Soil Gas Criteria Table. Therefore, the estimated naphthalene concentrations meet the thresholds in the Policy Soil Gas Criteria Table and the Policy criteria for indoor vapor risk by a factor of at least eight. It is highly unlikely that naphthalene concentrations in the soil vapor, if any, exceed the threshold.
- Direct Contact and Outdoor Air Exposure: The case meets Policy Criterion 3a. Maximum concentrations in soil are less than those in Policy Table 1 for Commercial/Industrial use, and the concentration limits for a Utility Worker are not exceeded. There are no soil sample results in the case record for naphthalene. However, the relative concentration of naphthalene in soil can be conservatively estimated using the published relative concentrations of naphthalene and benzene in gasoline. Taken from Potter and Simmons (1998), gasoline mixtures contain approximately 2 percent benzene and 0.25 percent naphthalene. Therefore, benzene can be directly substituted for naphthalene concentrations with a safety factor of eight. Benzene concentrations from the Site are below the naphthalene thresholds in Policy Table 1. Therefore, the estimated naphthalene concentrations meet the thresholds in Table 1 and the Policy criteria for direct contact by a factor of eight. It is highly unlikely that naphthalene concentrations in the soil, if any, exceed the threshold.

Objections to Closure and Responses

In an email communication on March 14, 2013 to California State Water Resources Control Board Clean-up Fund staff, the Regional Water Board objects closing the Site because:

- Site soil vapor sample results fail to meet soil vapor intrusion human health risk criteria (as measured by environmental screening levels [ESLs] and residential use CHHSLs).
  RESPONSE: Environmental screening levels (ESLs) are often used as initial screening criteria, but are not statutory cleanup criteria. Based on our review of available data, the maximum vapor concentration for benzene and ethylbenzene detected in samples collected at five feet bgs were reported to be 240 $\mu g/m^3$ and 1,400 $\mu g/m^3$, respectively, which are below the commercial use soil gas concentration criteria set by the Policy of 280 $\mu g/m^3$ benzene and 3,600 $\mu g/m^3$ ethylbenzene. The Case meets Criterion 2a of the Policy by Scenario 4 - Direct Measurement of Soil Gas Concentration with no bioattenuation zone. Additionally, sub-slab samples have been collected. The sub-slab samples reported maximum concentrations of benzene and ethylbenzene of 7.7 $\mu g/m^3$ and 190 $\mu g/m^3$, respectively. These levels are below CHHSLs for benzene (280 $\mu g/m^3$) and ethylbenzene (3,600 $\mu g/m^3$) for commercial use within sub-slab engineered fill. Use of the commercial level sub-slab within engineered fill CHHSLs is appropriate since the Site and adjacent properties are commercial properties and future construction would be atop engineered fill.

Determination

Based on the review performed in accordance with Health & Safety Code Section 25299.39.2 subdivision (a), the Fund Manager has determined that closure of the case is appropriate.

Recommendation for Closure

Based on available information, residual petroleum hydrocarbons at the Site do not pose a significant risk to human health, safety, or the environment, and the case meets the requirements of the Policy. Accordingly, the Fund Manager recommends that the case be closed. The State Water Board is conducting public notification as required by the Policy. Lake County Environmental Health Department has the regulatory responsibility to supervise the abandonment of monitoring wells.

Lisa Babcock — 2/20/14

Lisa Babcock, P.G. 3939, C.E.G. 1235 — **Date**

Prepared by: Abdul Karim Yusufzai

ATTACHMENT 1: COMPLIANCE WITH STATE WATER BOARD POLICIES AND STATE LAW

The case complies with the State Water Resources Control Board policies and state law. Section 25296.10 of the Health and Safety Code requires that sites be cleaned up to protect human health, safety, and the environment. Based on available information, any residual petroleum constituents at the Site do not pose significant risk to human health, safety, or the environment.

The case complies with the requirements of the Low-Threat Underground Storage Tank (UST) Case Closure Policy as described below.[1]

Is corrective action consistent with Chapter 6.7 of the Health and Safety Code and implementing regulations? The corrective action provisions contained in Chapter 6.7 of the Health and Safety Code and the implementing regulations govern the entire corrective action process at leaking UST sites. If it is determined, at any stage in the corrective action process, that UST site closure is appropriate, further compliance with corrective action requirements is not necessary. Corrective action at this site has been consistent with Chapter 6.7 of the Health and Safety Code and implementing regulations and, since this case meets applicable case-closure requirements, further corrective action is not necessary, unless the activity is necessary for case closure.	☒ Yes ☐ No
Have waste discharge requirements or any other orders issued pursuant to Division 7 of the Water Code been issued at this case?	☐ Yes ☒ No
If so, was the corrective action performed consistent with any order?	☐ Yes ☐ No ☒ NA
General Criteria General criteria that must be satisfied by all candidate sites: **Is the unauthorized release located within the service area of a public water system?**	☒ Yes ☐ No
Does the unauthorized release consist only of petroleum?	☒ Yes ☐ No
Has the unauthorized ("primary") release from the UST system been stopped?	☒ Yes ☐ No
Has free product been removed to the maximum extent practicable?	☒ Yes ☐ No ☐ NA

[1] Refer to the Low-Threat Underground Storage Tank Case Closure Policy for closure criteria for low-threat petroleum UST sites.
http://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2012/rs2012_0016atta.pdf

Has a conceptual site model that assesses the nature, extent, and mobility of the release been developed?	☒ Yes ☐ No
Has secondary source been removed to the extent practicable?	☒ Yes ☐ No
Has soil or groundwater been tested for MTBE and results reported in accordance with Health and Safety Code Section 25296.15?	☒ Yes ☐ No
Nuisance as defined by Water Code section 13050 does not exist at the Site?	☒ Yes ☐ No
Are there unique site attributes or site-specific conditions that demonstrably increase the risk associated with residual petroleum constituents?	☐ Yes ☒ No
Media-Specific Criteria Candidate sites must satisfy all three of these media-specific criteria: **1. Groundwater:** To satisfy the media-specific criteria for groundwater, the contaminant plume that exceeds water quality objectives must be stable or decreasing in areal extent, and meet all of the additional characteristics of one of the five classes of sites:	
Is the contaminant plume that exceeds water quality objectives stable or decreasing in areal extent?	☒ Yes ☐ No ☐ NA
Does the contaminant plume that exceeds water quality objectives meet all of the additional characteristics of one of the five classes of sites? If YES, check applicable class: ☐ **1** ☐ **2** ☐ **3** ☒ **4** ☐ **5**	☒ Yes ☐ No ☐ NA
For sites with releases that have not affected groundwater, do mobile constituents (leachate, vapors, or light non-aqueous phase liquids) contain sufficient mobile constituents to cause groundwater to exceed the groundwater criteria?	☐ Yes ☐ No ☒ NA
2. Petroleum Vapor Intrusion to Indoor Air: The site is considered low-threat for vapor intrusion to indoor air if site-specific conditions satisfy all of the characteristics of one of the three classes of sites (a through c) or if the exception for active commercial fueling facilities applies.	
Is the Site an active commercial petroleum fueling facility? Exception: Satisfaction of the media-specific criteria for petroleum vapor intrusion to indoor air is not required at active commercial petroleum fueling facilities, except in cases where release characteristics can be reasonably believed to pose an unacceptable health risk.	☐ Yes ☒ No
a. Do site-specific conditions at the release site satisfy all of the applicable characteristics and criteria of scenarios 1 through 3 or all of the applicable characteristics and criteria of scenario 4? If YES, check applicable scenarios: ☐ **1** ☐ **2** ☐ **3** ☒ **4**	☒Yes ☐ No ☐ NA

b. Has a site-specific risk assessment for the vapor intrusion pathway been conducted and demonstrates that human health is protected to the satisfaction of the regulatory agency?	☒ Yes ☐ No ☐ NA
c. As a result of controlling exposure through the use of mitigation measures or through the use of institutional or engineering controls, has the regulatory agency determined that petroleum vapors migrating from soil or groundwater will have no significant risk of adversely affecting human health?	☐ Yes ☐ No ☒ NA
3. Direct Contact and Outdoor Air Exposure: The Site is considered low-threat for direct contact and outdoor air exposure if site-specific conditions satisfy one of the three classes of sites (a through c).	
a. Are maximum concentrations of petroleum constituents in soil less than or equal to those listed in Table 1 for the specified depth below ground surface (bgs)?	☒ Yes ☐ No ☐ NA
b. Are maximum concentrations of petroleum constituents in soil less than levels that a site specific risk assessment demonstrates will have no significant risk of adversely affecting human health?	☐ Yes ☐ No ☒ NA
c. As a result of controlling exposure through the use of mitigation measures or through the use of institutional or engineering controls, has the regulatory agency determined that the concentrations of petroleum constituents in soil will have no significant risk of adversely affecting human health?	☐ Yes ☐ No ☒ NA

ATTACHMENT 2: SUMMARY OF BASIC CASE INFORMATION (Conceptual Site Model)

Site Location/History

- The Site is a former commercial petroleum fueling facility located on the southeast corner of Lakeshore Drive and Old Highway 53 and is a vacant former gas station building.
- The Site is bounded by an active commercial petroleum fueling facility across Lakeshore Drive to the north, a fast-food restaurant to the east, an empty lot to the south, and retail businesses across Old Highway 53 to the west and northwest across the intersection.
- A soil vapor survey was conducted on 18 October 2012 to determine current concentrations and distribution of hydrocarbons in soil vapor beneath the Site (Figures 2-4).
- Site maps showing the location of the former USTs, monitoring wells, groundwater level contours, and benzene and MTBE concentrations are provided at the end of this closure review (Applied Engineering and Geology, Inc., March 2012).
- Nature of Contaminants of Concern: Petroleum hydrocarbons only.
- Source: UST system.
- Date reported: May 1993.
- Status of Release: USTs removed.

Tank Information

Tank No.	Size in Gallons	Contents	Closed in Place/ Removed/Active	Date
1,2	8,000	Gasoline	Removed	October 1999
3	5,000	Gasoline	Removed	October 1999
4	550	Waste Oil	Removed	October 1999

Receptors

- GW Basin: Clear Lake Cache Formation.
- Beneficial Uses: Regional Water Board Basin Plan lists municipal, domestic, agricultural, and industrial.
- Land Use Designation: Aerial photograph available on GeoTracker indicates that the land use of the Site vicinity is commercial.
- Public Water System: Highlands Mutual Water Company.
- Distance to Nearest Supply Well: According to data available in GeoTracker, there are no public supply wells regulated by the California Department of Public Health within 1,000 feet of the defined plume boundary. No other water supply wells were identified within 1,000 feet of the projected plume boundary in the files reviewed.
- Distance to Nearest Surface Water: There is no identified surface water within 1,000 feet of the projected plume boundary.

Geology/Hydrogeology

- Stratigraphy: These sediments consist of interbedded deposits of clay, silt, sand, and occasional gravel from the surface to the total depth explored. Much of the subsurface sediments and rock is of volcanic origin.
- Maximum Sample Depth: 65 feet below ground surface (bgs).
- Minimum Groundwater Depth: 15.51 feet bgs at monitoring well MW-3.
- Maximum Groundwater Depth: 45.20 feet bgs at monitoring well MW-2.
- Current Average Depth to Groundwater: Approximately 34 feet bgs.

- Saturated Zones(s) Studied: Approximately 15 to 65 feet bgs.
- Appropriate Screen Interval: Yes.
- Groundwater Flow Direction: Historical shallow groundwater flow direction is variable; predominantly reported as "inconclusive". Historical deep groundwater flow direction has been primarily to the southwest (Applied Engineering and Geology, Inc., 2012).

Monitoring Well Information

Well Designation	Date Installed	Screen Interval (feet bgs)	Depth to Water (feet bgs) (12/01/2011)
On-Site Monitoring Wells			
MW1			Destroyed in 2004
MW-2	August 2001	35-50	43.44
MW-3	August 2001	39-54	38.73
MW-4	August 2001	30-45	38.25
MW-5	August 2001	25-40	36.59
MW-6	August 2001	25-40	28.90
Off-Site Monitoring Wells			
MW-7	October 2001	20-35	33.70
MW-8	October 2001	16-31	29.60
MW-9	October 2001	20-35	29.32
MW-10	October 2001	20-35	24.46
MW-11	October 2001	15-25	27.68
Deep On-Site Monitoring Wells			
MW-12	January 2004	55-60	37.18
MW-13	January 2004	54-60	36.52
MW-14	January 2004	55-60	36.35
MW-15	January 2004	60-65	40.98
Vapor Extraction Wells			
VW-1	October 2006	10-40	36.15
VW-2	October 2006	10-40	33.32
VW-3	October 2006	10-40	34.79
VW-4	October 2006	10-40	37.06
VW-5	October 2006	10-40	33.91
VW-6	October 2006	10-40	27.71
VW-7	October 2006	10-40	38.23
VW-8	October 2006	10-40	37.23

Remediation Summary

- Free Product: None reported in GeoTracker.
- Soil Excavation: None reported in GeoTracker.
- In-Situ Soil Remediation: Soil vapor extraction was conducted intermittently between March 2007 and October 2009, which removed approximately 6,500 pounds of TPHg.
- Groundwater Remediation: Ozone injection was conducted for 60 days in 2008.

Most Recent Concentrations of Petroleum Constituents in Soil

Constituent	Maximum 0-5 feet bgs [mg/kg (date sample-depth)]	Maximum 5-10 feet bgs [mg/kg (date sample-depth)]
Benzene	<0.005 (09/24/01)	12 (01/27/03) CH-3-10'
Ethylbenzene	<0.005 (09/24/01)	140 (01/27/03) CH-3-10'
Naphthalene	NA	NA
PAHs	NA	NA

NA: Not Analyzed, Not Applicable or Data Not Available
mg/kg: Milligrams per kilogram, parts per million
<: Not detected at or above stated reporting limit
PAHs: Polycyclic aromatic hydrocarbons

Most Recent Concentrations of Petroleum Constituents in Groundwater

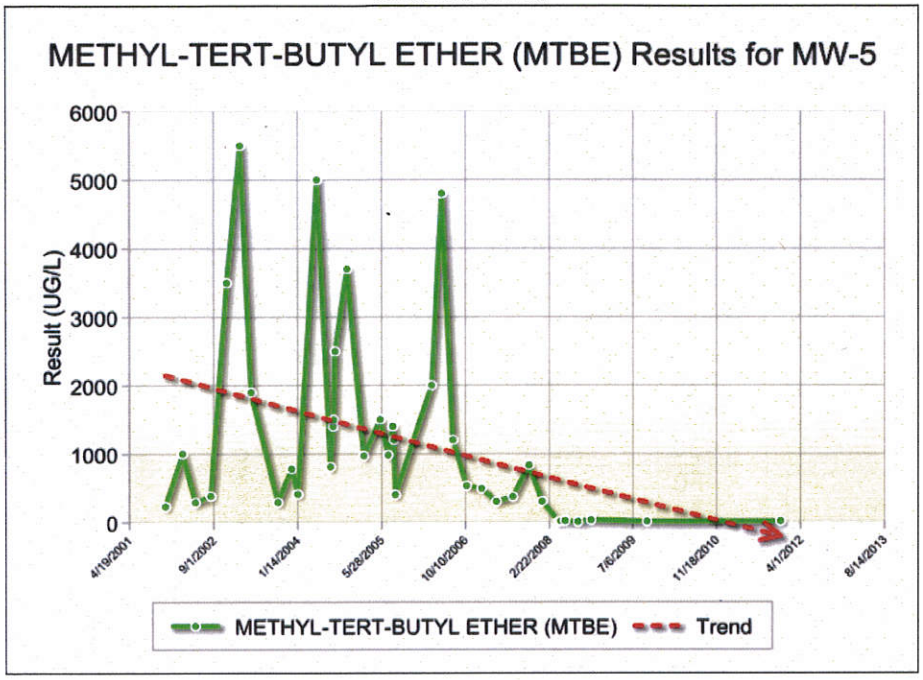
Sample	Sample Date	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)
MW-1	12/02/11	**<50**	**<0.5**	<0.5	<0.5	<0.5	<0.5	<5
MW-2	12/02/11	**<50**	**<0.5**	<0.5	<0.5	<0.5	<0.5	<5
MW-3	12/02/11	**<50**	**<0.5**	<0.5	<0.5	<0.5	<0.5	<5
MW-4	12/02/11	**<50**	**<0.5**	<0.5	<0.5	<0.5	<0.5	<5
MW-5	12/02/11	**<50**	**<0.5**	<0.5	<0.5	<0.5	**12**	<5
MW-6	12/02/11	**<50**	**<0.5**	<0.5	<0.5	<0.5	0.73	<5
MW-7	12/02/11	**<50**	**<0.5**	<0.5	<0.5	<0.5	<0.5	<5
MW-8	12/02/11	**<50**	**<0.5**	<0.5	<0.5	<0.5	**60**	<5
MW-9	12/02/11	**<50**	**<0.5**	<0.5	<0.5	<0.5	<0.5	<5
MW-10	12/02/11	**<50**	**<0.5**	<0.5	<0.5	<0.5	**40**	<5
MW-11	12/02/11	**<50**	**<0.5**	<0.5	<0.5	<0.5	**22**	<5
MW-12	12/02/11	**51**	**<0.5**	<0.5	<0.5	<0.5	<0.5	<5
MW-13	12/02/11	**<50**	**<0.5**	<0.5	<0.5	<0.5	0.57	<5
MW-14	12/02/11	**<50**	**<0.5**	<0.5	<0.5	<0.5	<0.5	<5
MW-15	12/02/11	**<50**	**<0.5**	<0.5	<0.5	<0.5	<0.5	<5
VW-1	12/02/11	**<50**	**<0.5**	<0.5	<0.5	<0.5	0.72	<5
VW-2	12/02/11	**<50**	**<0.5**	<0.5	<0.5	<0.5	<0.5	<5
VW-3	12/02/11	**<50**	**<0.5**	<0.5	<0.5	<0.5	<0.5	<5
VW-4	12/02/11	**<50**	**<0.5**	<0.5	<0.5	<0.5	1.7	<5
VW-5	12/02/11	**<50**	**<0.5**	<0.5	<0.5	<0.5	<0.5	<5
VW-6	12/02/11	**1,000**	**21**	2.3	75	8.6	**40**	28
VW-7	12/02/11	**<50**	**<0.5**	<0.5	<0.5	<0.5	3.2	<5
VW-8	12/02/11	**<50**	**<0.5**	<0.5	<0.5	<0.5	<0.5	<5
WQOs	-	**5**	**0.15**	**42**	**29**	**17**	**5[a]**	**1,200[b]**

NA: Not Analyzed, Not Applicable or Data Not Available
µg/L: Micrograms per liter, parts per billion
<: Not detected at or above stated reporting limit
TPHg: Total petroleum hydrocarbons as gasoline
MTBE: Methyl tert-butyl ether
TBA: Tert-butyl alcohol
WQOs: Water Quality Objectives, Regional Water Board Basin Plan
--: Regional Water Board Basin Plan does not have a numeric water quality objective for TPHg
[a]: Secondary maximum contaminant level (MCL)
[b]: California Department of Public Health, Response Level

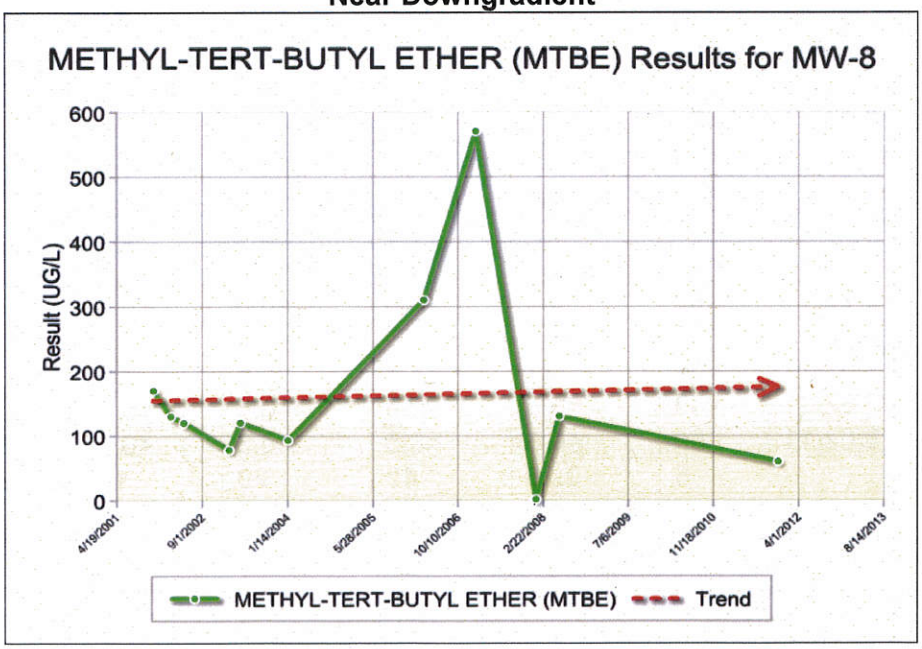
Groundwater Trends

- Fifteen groundwater monitoring wells were installed and monitored intermittently since 2001. MTBE trends are shown below: Source Area (MW-5), Near Downgradient (MW08), and Far Downgradient (MW-10).

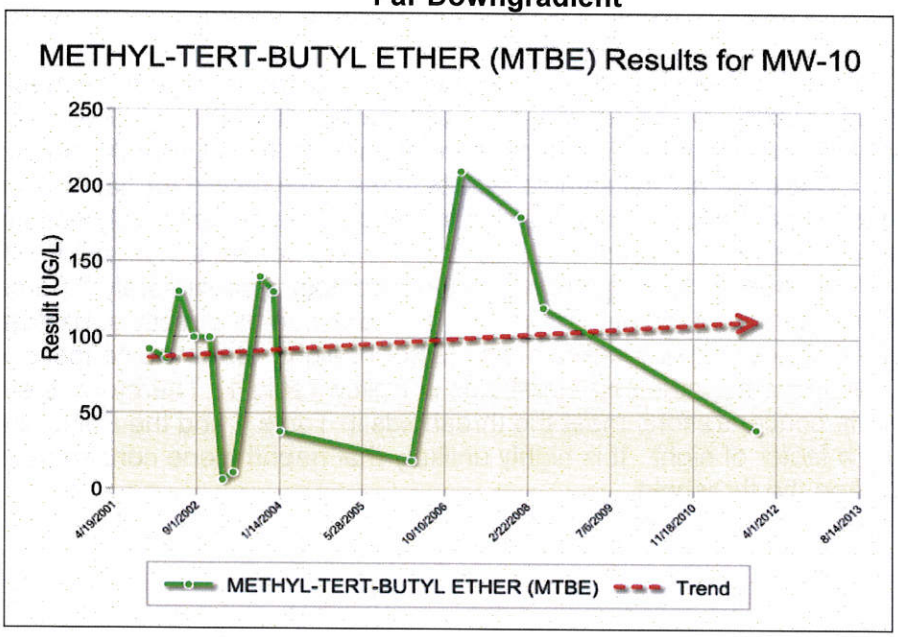
Source Area



Near Downgradient



Far Downgradient

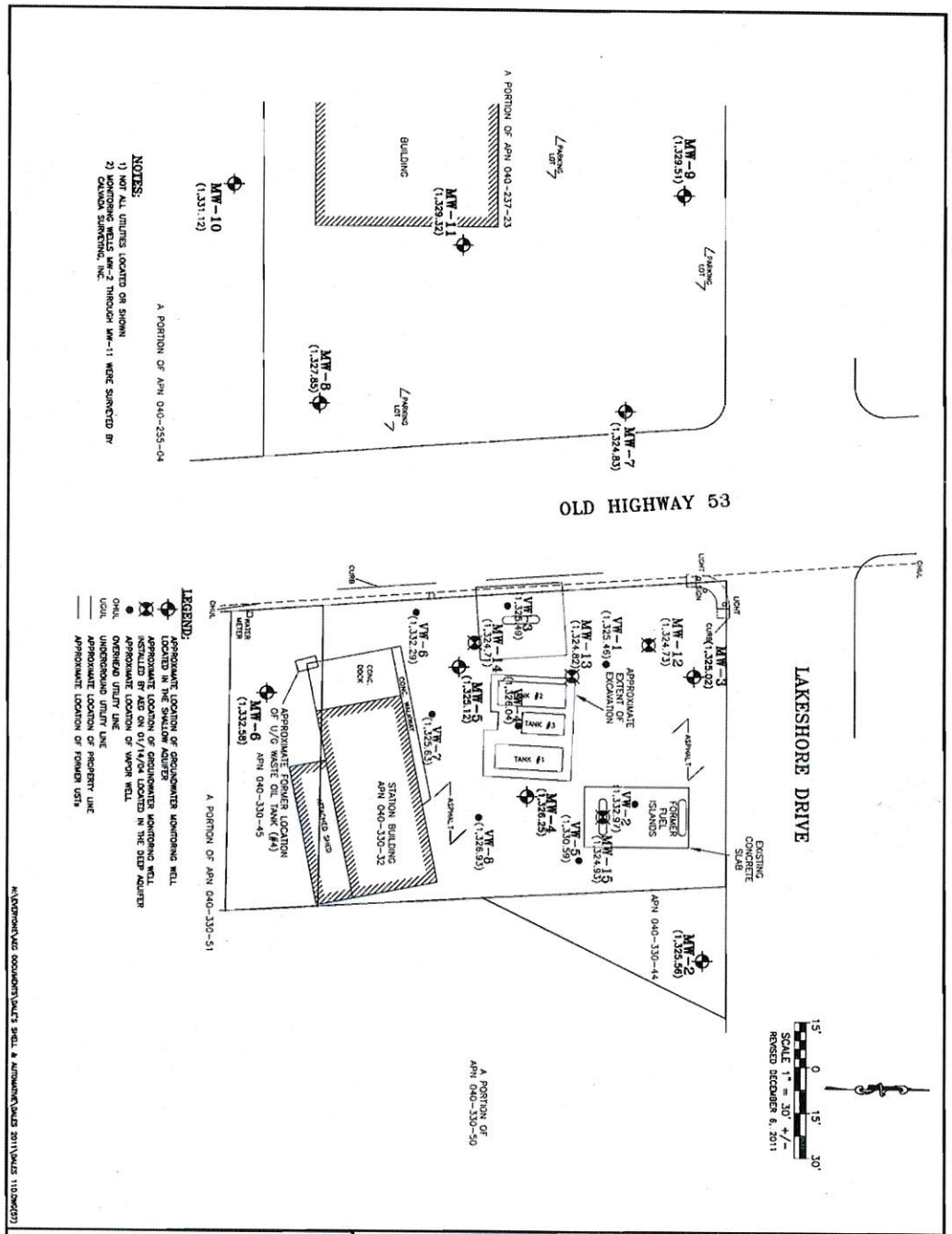


Evaluation of Current Risk

- Estimate of Hydrocarbon Mass in Soil: None reported.
- Soil/Groundwater tested for MTBE: Yes, see table above.
- Oxygen Concentrations in Soil Vapor: None reported.
- Plume Length: Projected to be <500 feet.
- Plume Stable or Decreasing: Yes.
- Contaminated Zone(s) Used for Drinking Water: No.
- Groundwater Risk from Residual Petroleum Hydrocarbons: The case meets Policy Criterion 1 by Class 4. The contaminant plume that exceeds water quality objectives is projected to be less than 500 feet in length. There is no free product. The nearest water supply well or surface water body is greater than 1,000 feet from the defined plume boundary. The dissolved concentration of benzene is less than 1,000 micrograms per liter (µg/L) and the dissolved concentration of MTBE is less than 1,000 µg/L.
- Indoor Vapor Risk from Residual Petroleum Hydrocarbons: The case meets Policy Criterion 2a by Scenario 4 with no bioattenuation zone. The maximum benzene and ethylbenzene concentrations in soil gas at five feet are less than, respectively, 280,000 µg/L (280 µg/m^3) and 3,600,000 µg/L (3,600 µg/m^3), at a depth of five feet. These levels meet the Commercial soil gas criteria. Additionally, sub-slab samples have been collected. The sub-slab samples reported maximum concentrations of benzene and ethylbenzene of 7,700 µg/L (7.7 µg/m^3) and 190,000 µg/L (190 µg/m^3), respectively. These levels are below CHHSLs for commercial use. The Site and adjacent properties are commercial properties. There are no soil vapor sample results in the case record for naphthalene. However, the relative concentration of naphthalene in soil vapor can be conservatively estimated using the published relative concentrations of naphthalene and benzene in gasoline, especially considering naphthalene's lower volatility. Taken from Potter and Simmons (1998), gasoline mixtures contain approximately 2 percent benzene and 0.25 percent naphthalene. Therefore, benzene can be directly substituted for naphthalene concentrations with a safety factor of eight. Benzene concentrations from the Site are below the naphthalene thresholds in the Policy Soil Gas Criteria Table. Therefore, the estimated naphthalene concentrations

meet the thresholds in the Policy Soil Gas Criteria Table and the Policy criteria for indoor vapor risk by a factor of eight. It is highly unlikely that naphthalene concentrations in the soil vapor, if any, exceed the threshold.

- Direct Contact Risk from Residual Petroleum Hydrocarbons: The case meets Policy Criterion 3a. Maximum concentrations in soil are less than those in Policy Table 1 for Commercial/Industrial use, and the concentration limits for a Utility Worker are not exceeded. There are no soil sample results in the case record for naphthalene. However, the relative concentration of naphthalene in soil can be conservatively estimated using the published relative concentrations of naphthalene and benzene in gasoline. Taken from Potter and Simmons (1998), gasoline mixtures contain approximately 2 percent benzene and 0.25 percent naphthalene. Therefore, benzene can be directly substituted for naphthalene concentrations with a safety factor of eight. Benzene concentrations from the Site are below the naphthalene thresholds in Policy Table 1. Therefore, the estimated naphthalene concentrations meet the thresholds in Table 1 and the Policy criteria for direct contact by a factor of eight. It is highly unlikely that naphthalene concentrations in the soil, if any, exceed the threshold.



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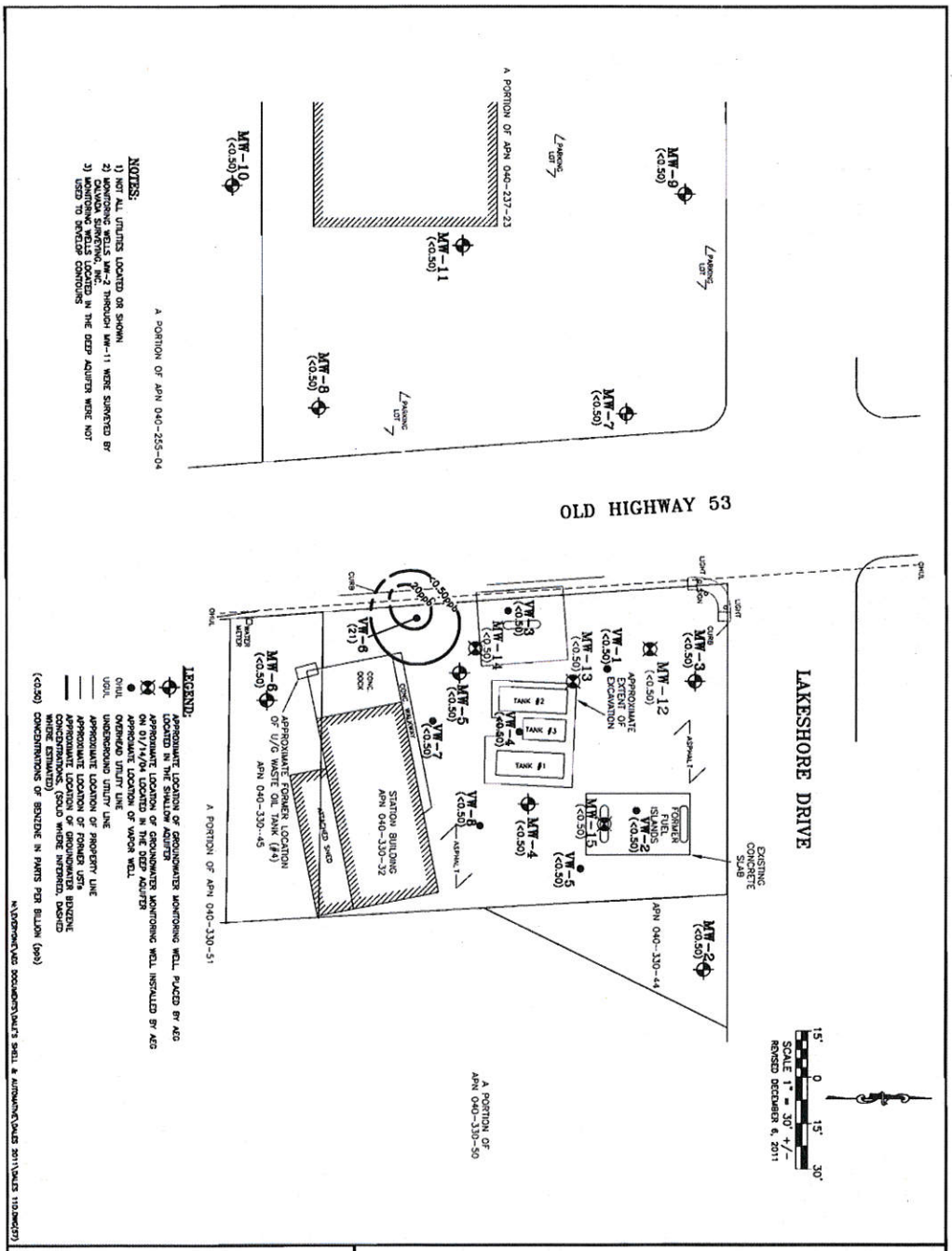
GROUNDWATER ELEVATIONS OF SHALLOW WELLS 12/01/11
FORMER DALE'S SHELL & AUTOMOTIVE
15021 LAKESHORE DRIVE
CLEARLAKE, LAKE COUNTY, CALIFORNIA 95422

APPROVAL	DATE
JS	01/27/12
BS	1/31/12

FIGURE 12



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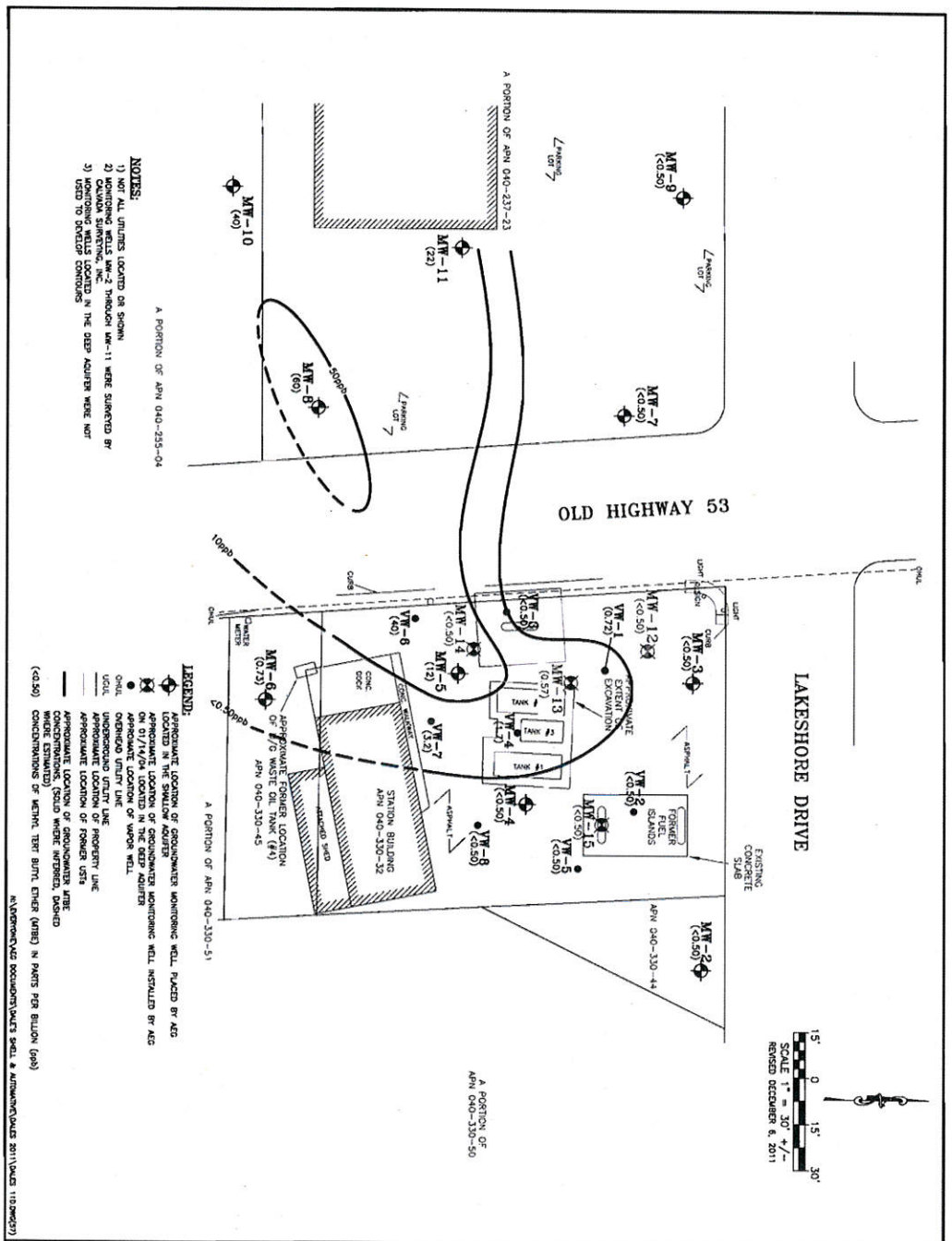
BENZENE ISOCONCENTRATION CONTOURS 12/02/11
FORMER DALE'S SHELL & AUTOMOTIVE
15021 LAKESHORE DRIVE
CLEARLAKE, LAKE COUNTY, CALIFORNIA 95422

APPROVAL	DATE
JS	2/1/12
DS	2/1/12

FIGURE 16



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MTBE ISOCONCENTRATION CONTOURS 12/02/11
FORMER DALE'S SHELL & AUTOMOTIVE
15021 LAKESHORE DRIVE
CLEARLAKE, LAKE COUNTY, CALIFORNIA 95422

APPROVAL	DATE
JE	01/27/12
JS	1/30/12

FIGURE 17