Taku Housing Construction Project Audit

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Office of the Staff Judge Advocate
US Army Alaska

Forward.

Following review of a AR 15-6 investigation (Tab 1B) of events leading to and immediately following the discovery of PCB contamination at the Taku housing project construction site, Colonel David Shutt, USAG-AK Commanding Officer, directed an audit of Alaska Garrison activities and procedures (Tab 1A). The focus of this Audit is:

a. Determine whether all pre-construction environmental survey and assessment procedures were substantially followed;

b. Determine whether all waste management practices performed during construction substantially complied with federal, state and Army requirements; and

c. Determine whether changes or improvements are needed with respect to oversight of MILCON projects and waste management practices.

As a guide for this audit, Colonel Shutt's tasking also included an outline of detailed items for review (Tab 1A).

Based upon a very thorough examination of Alaska Garrison procedures, applicable regulations, Alaska Garrison records and interviews of key individuals involved with Taku construction events, this Auditor has concluded that the situation with the Taku construction project is the direct result of multiple individuals failing to adhere to Army and federal regulations and guidance. USAG-AK DPW and Environmental personnel failed to properly assess environmental conditions at Taku, failed to properly manage known contamination on Taku, and failed to properly dispose of contamination unearthed on the construction site. In addition, this audit also found that misrepresentations and incomplete disclosures of critical information to Army Alaska senior leaders was a key factor in the course of events and outcome.

The Command is at risk of being assessed significant environmental fines. Some USAG-AK personnel appear to be at risk of criminal prosecution. Contamination on the Taku site will likely require environmental cleanup, potentially costing several millions of dollars. Most significantly, FWA military families in desperate need of housing will not be able to occupy the constructed units for several years – if at all.

This report consists of six subparts, each covering a specific phase or issue pertinent to the Taku situation. These are: Background; Preconstruction Efforts; Initial Worksite Contamination Management; PCB Discovery at Site 52; Post PCB Environmental Investigation; and Misleading Information. For each subpart, the report sets out facts, identifies controlling regulations and other legal authority, and provides an analysis and conclusion.

I. Background:

Fort Wainwright, Alaska (FWA) is one of 133 military installations[1] listed as a CERCLA[2] National Priority for cleanup. This listing on the National Priorities List (NPL) is a consequence of a considerable number of contaminated areas located throughout the cantonment area. For facilities listed on the NPL, federal law obligates a military installation to adhere to a series of strict procedures designed to identify and remediate hazardous substance contamination. Installation-specific guidance and procedures are set out in Federal Facility Agreements (FFA).[3] The FFA for FWA is a three-party agreement between the Environmental Protection Agency (EPA), Alaska Department of Environmental Conservation (ADEC) and Alaska Garrison. The FWA Agreement contains detailed procedures that FWA must follow whenever new contaminated sites are discovered on the installation.[4]

Following these procedures, FWA Garrison remediation efforts in the 15 years of the FFA have served to eliminate or reduce most health and safety risk

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[1] EPA National Priorities List, Nov 21, 2006. FWA is one of five Alaska military installations included on the NPL

[2] Comprehensive Environmental Response, Compensation, and Liability Act

[3] Tab 2A Federal Facility Agreement (1991)

[4] Tab 2A, FFA Appendix 1

associated with the contamination sites. Two of these sites were old landfills where drums of petroleum, solvent and pesticide waste had been buried.[5]

US Army Alaska is in the process of upgrading and expanding its Military Housing to meet current and foreseeable needs as it continues the transformation of US Army Alaska units. USAG-AK plans call for upgrading and building several hundred family housing units at Forts Wainwright and Richardson.[6] In 2004, Congress authorized two Fort Wainwright (FWA) housing projects and appropriated $64 million to cover the cost of building 140 family units.[7]

The original plan was to build the 140 housing units in the Siku Basin section of Fort Wainwright. Due to the amount of permafrost on the site and the distance from existing utility lines, FWA Garrison project planners concluded that it wasn't cost effective to build the 140 family housing units on Siku. In 2003, FWA Garrison officials decided to relocate the project to Taku Gardens.[8]

Prior to construction, Taku Gardens was a 60+ acre lot that had sat vacant for more than 40 years. Taku is located on the south side of the installation, in the middle of the most heavily developed area of FWA. The area was mostly overgrown in native plants. The southwest corner was used by housing residents for garden plots. A PX Gas Station sits northwest; at the east border is a rail line; the south border is wooded; and to the west was a large family housing area.[9]

Procedures for military construction planning are set forth in AR 415-15, and the actual progress of the planning process is memorialized in a DD Form 1391, which is periodically updated with changes in the project or when new information becomes available. Included among the many preconstruction planning requirements are the need to complete a NEPA review to determine what effect the project may have on the local environment, and an environmental site review to determine whether local environmental conditions may adversely impact the construction project. Prospective construction sites are rated according to

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[5] Tab 8, Fort Wainwright Action Plan, FY 2005 (CERCLA Program)
[6] Tab 3A EA pages 1-3.
[7] Tab 10P-1, Mr. Wang interview
[8] Tab 3B See, *Senior Executive Review Group* (Mar 05) briefing on USAG-AK installation development plans
[9] Tab See 3A, 2004 Environmental Assessment; and 4B Phase I, COE Taku Gardens Geotechnical Survey

environmental conditions. A prospective site with the potential for contamination or munitions waste is rated Category II. A site with known or high probability of contamination or munitions waste is a Category III. [10]

FWA holds a hazardous waste management permit issued by EPA under the authority of the Resource Conservation and Recovery Act (RCRA), commonly referred to as a Part B Permit.[11]

II. Taku Preconstruction Efforts:

A. Facts:

1. Site Surveys and Evaluations

In 2003, the FWA Housing Office asked the US Army Garrison Alaska Environmental Office (USAG-AK Environmental) to complete a preconstruction environmental survey of the Taku site.[12] According to Ms. Cristal Fosbrook, chief of DPW Environmental Remediation, funding for the survey was very limited. The Housing Office provided $10,000 to which was added some funds remaining from an Installation Restoration Program (IRP) effort. This money was used to cover a very limited site survey, with field work conducted by Cold Regions Research and Engineering Laboratory (CRREL).[13]

The CRREL survey effort consisted of several bore samples collected at various depths at a few locations on the site. Soil samples were analyzed by a local laboratory, with no contamination found. CRREL also researched Garrison files, locating photos showing that Taku had been used for military activities during the 1950s. CRREL did not prepare a report consolidating the information obtained in the survey.[14]

According to Ms. Fosbrook, FWA Garrison IRP records indicated that at some time in the past the Taku site had been used as a "white metal" landfill. This information was obtained from interviews of FWA personnel. The interviews were

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[10] Tab 5A, *USAEC Procedures Manual for the Environmental Survey and Clearance of a Construction Site*, Section 1-3
[11] Tab 2C RCRA Permit
[12] Tab 4A
[13] Tab 10F-1 Fosbrook AR 15-6 Questions and Answers
[14] Tab 4A, USAG-AK 2003 Environmental Survey

part of a 1980s installation-wide IRP review to determine the possible extent of contamination on FWA resulting from past military and industrial activities. Ms Fosbrook stated that the small amount of funds available for the 2003 review limited what CRREL and the Garrison could do to actually determine the full extent of site conditions. According to Ms. Fosbrook, no formal report was prepared that set out survey findings. Based upon the historic information and the CRREL field data, Ms. Fosbrook stated that she recommended against building family units on the Taku site. She wasn't aware that the Garrison had decided to build on the site until summer 2005 when she received word that the contractor had encountered petroleum (POL) contaminated soil.[15]

The Corps of Engineers (COE) undertook a more extensive geotechnical survey of the site. The focus of their site review was to investigate surface and subsurface conditions to address geotechnical and environmental concerns.[16] The field work for the first phase was accomplished between Nov 03 and Feb 04, and consisted of gathering surface and subsurface soil samples for review. A total of 38 bore samples were collected on the site at depths of 25-50 feet below surface. Borings were evenly spaced in a grid over the entire 60 acre site.[17]

Results from boring samples showed some low-level concentrations of hazardous substances; localized PCBs at slightly over the 1 mg/kg (one part per million) maximum allowable standard for residential areas; and that debris was buried at various locations on the site.[18] Twelve additional borings were made in the vicinity of PCB detection, with no additional PCB contamination being found in the area where PCB had initially been detected. Soil samples also showed elevated levels of heavy metals and diesel range organics.[19] Report findings included a recommendation that soil from the area of low-level PCB be removed (approximately 200 cubic yards).[20] The COE report concluded that the Taku site probably wasn't heavily contaminated. The report added that the debris and contamination detected

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[15] Tab 10F-2 Fosbrook interview
[16] Tab 4B, Phase I, March 2004 COE, page 1
[17] Tab 4B, Figure 2
[18] Tab 4C, COE Chemical Data Report, pages 2-6
[19] Tab 4B, Table 4-1
[20] Tab 4C, Geophysical Site Investigation, July 2004, page 1

on site was consistent with an undocumented waste disposal site, and that the Army needed a plan for managing possible contaminated soil and other solid waste items encountered on Taku. [21]

In July 2004, R & M Consultants, Inc., completed the second phase of the Corps of Engineer's geotechnical survey. The purpose of this subsequent investigation was to delineate the extent of the buried metals detected in the first phase of the survey.[22] The entire subsurface of the Taku site was surveyed using a magnetometer system.[23] Information obtained from these tests showed a significant amount of debris buried in discernable groups throughout the site.[24] The buried objects were reported to be of various shapes (i.e. cylinder) and sizes, some very large.[25]

In August 2004, the Garrison completed an Environmental Assessment (EA) covering the entire FWA Housing Revitalization Project. The EA includes a short analysis of environmental conditions at the Taku project site. The EA states that there is no contamination on the site, and the only environmental concern is that the site "was used as a white metal dump (cloths washers and dryers, refrigerators, etc.) in the past."[26]

The Taku housing venture is actually two MILCON projects submitted to Congress for funding, with two separate DD Forms 1391 prepared in 2001.[27] The environmental review section is identical for both documents. The full extent of the environment review contained in both DD Forms 1391 consists of a simple statement that Army Regulations exempt the project from NEPA analysis.[28] Both forms were updated in 2005, but no attempt was made to amend the environmental review portion, despite the fact that a NEPA analysis had been accomplished in 2004, or that the COE and Garrison had accomplished some level of environmental survey.

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[21] Tab 4B, Chemical Data Report (Apr 04), page 8
[22] Tab 4C
[23] Tab 4C, pages 2-4
[24] Tab 4C, Figure 3
[25] Tab 4C, pages 6-8
[26] Tab3A , Aug 2004 EA, Section 3.9.3 *Environmental Consequences*
[27] Tab3C, DD Forms 1391, Project No 57785, and Tab D Project No. 57074
[28] Tab 3C

According to Mr. Trevor White, FWA DPW Master Planning, the FWA DPW Environmental Office (FWA Environmental) is responsible for providing the information needed to meet the environmental review requirements of the preconstruction planning process. Mr. White stated he is unsure why FWA Environmental did not submit information from the 2003 CRREL survey, or subsequent COE geotechnical surveys, or information from the 2004 Environmental Assessment for inclusion into the 1391.[29]

To assist in the analysis of FWA preconstruction planning, DD Forms 1391 for the FWA Aviation Task Force support facility[30] and Hangar 6 replacement[31] projects were also reviewed. The Aviation Task Force support facilities project is still in development.[32] The Hangar 6 project has started but has been delayed due to several construction workers becoming sick from exposure to some still unknown substance at the site.[33] Neither of the DD Forms 1391 for these projects contains any information that would indicate an environmental survey had been accomplished.[34] No changes have been made to the Hangar 6 planning document despite the discovery of POL and other contamination during construction.

2. Munitions Hazard

In the spring of 2004, DPW crews performed vegetation and surface clearance at Taku to accommodate the COE's second phase of the geotechnical survey. DPW excavation efforts uncovered a considerable amount of metal scrap, metal containers and discarded pieces of heavy equipment, some of which were "car-size" objects.[35] On 24 Mar 2004, the construction team uncovered what they thought were munitions items. An Explosive Ordinance Disposal (EOD) team from the 716th EOD Company, Fort Richardson, responded to the incident, finding an 8-

[29] Tabs 3 C&D
[30] Tab 3E-F Aviation Support 1391
[31] Tab 3G-H Hanger 6 1391
[32] Note: The Aviation Task Force project has undergone significant revision, and current plans are to develop an Aviation Brigade Combat Team. USAG-AK is initiating an Environmental Impact Statement for this project.
[33] Tab 9A, Newspaper account
[34] Tab 3E-1 & 3F-1
[35] Tab 4D, 2004 COE Geotechnical Survey, page 6

inch artillery projectile, bomb fins, recoilless rifle grenade casing, a training rocket warhead, and an expended rocket motor. Because of its deteriorated condition, the EOD team was unable to verify that the artillery round wasn't live until after splitting open the casing with detonation charges.[36]

From 8 to 20 Apr 2004, Army EOD teams responded to four separate incidents where construction crews uncovered suspected munitions item.[37] These included four additional 8-inch artillery rounds. As with those initially discovered, the deteriorated condition of these items also required detonation to determine they were not live rounds.[38]

A 29 Mar 2004 incident response report prepared by members of the responding EOD team notes that team members met with Mr. Rick Lowe, FWA DPW Supervisor of Operations.[39] According to the report, EOD members expressed concern that live ordnance could possibly be buried on the Taku site. EOD technicians recommended that DPW suspend operations on Taku until the Garrison obtained the services of a civilian EOD expert to serve as an observer during construction activities. The report notes that Mr. Lowe didn't believe an on-site EOD expert was needed unless live ordnance was actually discovered on the site.

CPT Douglas Guard, Commander 716th EOC Company, prepared an incident report recording events associated with a response action that occurred on 8 Apr 2004.[40] The report states that CPT Guard met with the FWA Provost Marshall about the need to suspend construction activities on the site. CPT Guard was told that the housing project was too important and couldn't be stopped.

CPT Guard's report also states that he met with Mr. Jerry Russell of the Post Safety Office. The report states that Mr. Russell agreed to look into whether the housing project could be delayed until such time as a proper assessment was made of site conditions.[41]

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[36] Tab 6A-F, EOD Reports
[37] Tabs 6A- 6D
[38] Tabs 6A – 6D
[39] Tab 6A, page 3
[40] Tab 6C, page 3 CPT Guard narrative
[41] Tab 6C, page 3

Later on 8 Apr 04, LTC David Brown, FWA Garrison Commander agreed to meet with CPT Guard. Also attending the meeting was Mr. Michael Meeks, FWA DPW Director. At the meeting CPT Guard offered an overview of what his unit had discovered on the site. He explained to the FWA Garrison Commander and FWA DPW Director that the types and extent of items (to include layers of loose propellant) suggested a high probability of finding live munitions on the site. CPT Guard expressed his concerns with the plan to build a housing complex on the Taku site, and strongly recommended that construction be delayed until the site was properly surveyed for possible munitions. He also recommended that the Garrison obtain the services of a civilian EOD specialist, who would be required to be on site to inspect all excavated material for possible munitions components. Captain Guard explained that because this was a construction project, his EOD unit could not provide the daily inspection support needed on the project.[42]

Captain Guard reported that his recommendations were met with hostility from both LTC Brown and Mr. Meeks. According to CPT Guard, Mr. Meeks stated that if a bulldozer did encounter a live artillery round, it would simply scare the driver. LTC Brown and Mr. Meeks rejected the recommendation for a munitions survey or EOD expert on scene, stating that completion of the housing project was critical and the Captain's recommendations would only serve to unnecessarily delay the construction schedule.[43]

Mr. Meeks recalls the meeting differently. According to Mr. Meeks, Captain Guard complained that EOD experts were being constantly called to handle items that were obviously decorative and not a safety risk. According to Mr. Meeks, Captain Guard told the FWA Garrison commander that his unit would not respond to any additional discoveries on the site. Mr. Meeks recalls that LTC Brown notified Captain Guard's immediate commander and complained of Captain Guard's decision.[44]

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[42] Tab 10J-1 & 10J-2, CPT Guard interviews
[43] Tab 6C, page 3; Tab 10J-1; Tab 10J-2
[44] Tab 10L-1, Meeks interview, pages 12-15

According to CPT Guard, he also reported the situation to his commander in Hawaii.[45] Apparently, information about the event made its way to then-MG John Brown III, then Commanding Officer of US Army Alaska. The general requested that FWA Garrison provide clarification of the situation. LTC Brown told MG Brown that there had been a meeting with the EOD Company Commander, that a risk assessment had been accomplished, and that all agreed there was little likelihood of encountering high explosive rounds. [46]

Mr. Meeks stated he doesn't recall having personal involvement in the risk assessment. Reviewing FWA DPW files he was unable to locate any record of the risk assessment referred to in the email to MG Brown.[47]

3. Management's Actions

On 9 Mar 2005, USAG-AK leadership briefed IMA and PARO senior officials on Army Alaska installation development, including a short overview of the housing project.[48] The briefing included background information as to why it was necessary to move the 140-unit project from Siku Basin to Taku. According to Mr. Allen Lucht, FRA DPW Director, the senior leaders were also told that some "scrap metal" was buried on Taku.[49] Briefing slides also state that "inert UXO located during clearing operations" and that some PCB contamination had been discovered on the site.[50] Slides presented at this briefing state that among the garrison's obligations for the housing project is the responsibility to "insure the site is free of contaminants."[51]

According to Mr. Meeks, FWA DPW Director, the garrison was aware that the Taku site had been used as a landfill but believed the amount and type of material buried on site was not a serious consideration. He does recall seeing the COE's geotechnical survey but is not certain if this was before or after construction started. He also understood that the munitions items found on the site in 2004 were decorative items. Based on his personal assessment of site conditions, Mr. Meeks

[45] Tab 10J-2, CPT Guard interview,
[46] Tab 10L-3, Email traffic from LTC Brown to MG Brown III, dated 8 Apr 04
[47] Tab 10L-3
[48] Tab 3B, SERG briefing
[49] Tab 10-O-1, pages 13-15
[50] Tab 3B
[51] Tab 3B

felt there was no need to delay the project for further environmental investigation. Mr. Meeks stated that he recalls being told that building the housing complex at Taku was not a good idea. He emphasized that he received the same advice for all the alternative sites being considered for the housing project, explaining that there was some level of permafrost or environmental or utility issue with each of the possible choices.[52]

4. COE Contract

On 22 Sept 04, the Corps of Engineers awarded the Taku construction to Watterson Construction Co. (Watterson) to build 128 housing units on the Taku site.[53] Due to an excess workload in the Alaska District Office, the contract was awarded and managed by the Seattle District Office. Mr. Win Wang of the Seattle Office was named contracting officer.[54] Mr. Philip Salmon, Alaska District COE, Northern Area Office, was appointed Administrative Contracting Officer (ACO) for the project, and Mr. John Jacobson, also of the Northern Area Office, was named alternate ACO. Mr. John Wentz served as COE Quality Assurance representative.[55]

The contract Statement of Work indicated that low levels of PCB and some other chemical waste had been detected on Taku,[56] but references to anticipated waste management focused primarily on the likelihood of encountering POL (petroleum, oil and lubricant) waste.[57]

According to CEO Contract administrators, the Garrison had informed the COE that the site had been used by the Air Force in the past, and that materials may have been buried on site when the units left the area. COE administrators provided this information to the contractor. [58] Neither COE nor Watterson was told that Taku was an old landfill. The COE was told that EOD teams had found inert practice

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[52] Tab 10L-1, pages 5-10
[53] Tab 20 Compact Disc A Corps of Engineers Contract; Tab 10P, Wang interview. According to Mr. Win Wang, funding was reduced to 90%, requiring project scope to be reduced from the 140 planned to 128 units.
[54] Tab 10P-1, Wang interview notes
[55] Tab 7F, Corps appointment letters
[56] Tab 7 D-E
[57] Tab 7B, page 3, Watterson design submittal, Contract No. W912DW-04-C-0019
[58] Tab 10D, Corps responses to questions, pages 1- 2

munitions items on the site, but understood that Army EOD personnel had told the Garrison the items were "junk" and were rudely told to "not call them any more."[59] There are no records to suggest that either the COE or Garrison recommended the contractor have an EOD expert on scene when construction started.

Services of a civilian EOD expert were finally obtained by the Garrison in June 2006 as part of an environmental investigation. In less than a week after the EOD expert arrived on the Taku site, he began identifying munitions items.[60]

B. Controlling Regulations

1. As stated in AR 200-1, Sect. 51-12, the purpose of a preconstruction environmental site survey is to "ensure that builders and future occupants of military facilities will not be exposed to environmental health and safety risks. These risks may result from sites contaminated by hazardous substances or unexploded ordinance." Considerable guidance for the Army's environmental survey process is found in AR 415-15, DA PAM 415-15 and *Procedures Manual for the Environmental Survey and Clearance of a Construction Site*, U.S. Army Environmental Center, Interim Draft Final, Oct 1999. [61] Army Environmental Survey and Clearance procedures are designed with a two-stage approach.

a. Stage one is a preconstruction assessment, which consists of an extensive review of installation documents, with the goal of understanding past activities, identifying possible contaminant receptors, and preliminary identification of possible contamination pathways.[62]

b. Should the initial review indicate a potential or high probability for contamination, the installation undertakes a sampling program comparable with that used in the Army's IRP. The process emphasis is on scientific analysis.[63]

2. A garrison commander has ultimate responsibility for selecting MILCON sites, which includes responsible for determining suitability of the selected site. Site

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[59] Tab 10D, page 2
[60] Tab 6G, North Wind Report
[61] Tab 5A, AEC *Environmental Survey Manual*
[62] Tab 5A, *Environmental Survey Manual*, Section 2
[63] Tab 5A, ESM, Section 3

selection denotes that any special environmental and safety concerns have been considered and deficiencies have been rectified.[64]

3. As part of the site selection process a garrison must conduct an environmental site survey, a UXO survey as needed, and ensure the site is properly categorized according to potential to encounter contamination or UXO.[65] Survey activities range from reviews of historic files to extensive geophysical investigations of subsurface conditions. The level of effort required by a garrison is proportional to the likelihood of encountering contamination and the potential for such contamination to impede construction.[66]

4. Army regulations also require that survey findings and site characterization be approved by the installation commander and recorded in the project DD Form 1391. The site characterization contained in the DD Form 1391 must also be submitted to the IMA Region Director for certification.[67]

C. Analysis of Facts

1. Inadequate Survey

The record indicates that the FWA Garrison leadership's consideration of environmental conditions ended with the decision to move the housing project from Siku to Taku. Having concluded that Siku was not cost effective, FWA Garrison leaders apparently gave no real thought as to whether Taku was a better choice. For some reason, FWA Garrison leaders never questioned why 60+ acres had sat vacant for more than 40 years within the most developed area of the installation. The conduct of FWA Garrison leadership suggests an unyielding commitment to placing the housing project at Taku, regardless of actual conditions. This intransigency is illustrated in the leadership's summary rejection -- and at times hostility -- to any suggestion that the Taku site might not be an acceptable choice.

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[64] AR 415-15, 2-2. a. ...*Site approval denotes that a project's location conforms to land use and sustainable design and development planning principles, the development of the installation, and that any special criteria (such as safety or environmental) have been considered and deficiencies either have been or will be rectified, or a waiver therefore will be obtained.*

[65] AR 415-15, 2-2b

[66] Tab 5A, ESM, Section 1

[67] AR 415-15, Section C-2

By the time the Taku construction contract was awarded, both the FWA Garrison leadership and the Army Corps of Engineers had enough knowledge of site conditions to suspect that Taku was a large military landfill. This in and of itself should have convinced project planners that more extensive investigation was needed before actually starting construction, especially when FWA CERCLA records show that in the past military units had buried drums of POL, solvent and pesticide waste on the installation.[68] FWA Garrison and COE were overly optimistic in assuming there was no serious contamination buried at Taku.

The environmental survey efforts by the FWA Garrison were minimal, perhaps as a consequence of limited funding.[69] A lack of funding doesn't excuse the failure of Alaska Garrison Environmental personnel to make the effort to compile the CRREL information into at least a short report for FWA DPW officials. Even this shortfall, the FWA Garrison Commander and DPW Director were still responsible for ensuring that the limited survey information and findings were memorialized in the DD Form 1391 process and submitted to the MACOM for certification.

The record does show that the COE expended considerable effort with its own geotechnical survey. The COE's geotechnical survey included specific warnings of likely site conditions. With the completion of the second phase of the survey in July 2004, COE project planners had enough knowledge of the site to know that it did not meet the "clean" requirements dictated by Army regulations. Although the COE wasn't responsible for site conditions, COE project managers should have provided this information to FWA Garrison officials.

The record shows that little effort was made to coordinate or share the information collected in the various field studies of Taku. This could have been a result of the fact that the COE environmental survey wasn't completed until after the FWA Garrison had already decided to build on Taku, and that the Army was nearing the end of the contract process. Based on information provided by COE contract administrators, it appears the COE simply assumed that since the FWA Garrison had decided to build on Taku, the Garrison was fully aware of site conditions. This

[68] Tab 8, Fort Wainwright Installation Action Plan, FY 2005.
[69] Tab 10L-2, Meeks 16 Nov 06 interview notes

willingness to assume without confirmation is a reoccurring theme throughout the various stages of this project.

Alaska Garrison environmental personnel who have reviewed the second phase of the COE geotechnical survey, question the methodology employed in the Corps' investigation. They note that because of the rigid grid pattern used for bore samples in the first stage of the investigation,[70] most of the sampling actions likely missed concentrated pockets where material was buried.[71] Those who have reviewed the geotechnical survey also question why no effort was taken to gather additional bore samples once the COE had reliable information on the pattern of the metal debris throughout the Taku site. Given that the purpose of the COE survey wasn't to obtain a full assessment of environmental conditions, it's likely the COE didn't see a need to take their review to the next level.

Had there been a concerted effort of review and analysis of all the information available to the Army prior to construction, it's probable that environmental experts would have concluded that additional investigation was warranted in light of the amount and scope of material buried on the site. Had such effort been taken, the probability is high that the FWA Garrison would have discovered much of the hazardous substances found later during actual construction.

In reflecting on the decisions leading to the Taku project, Mr. Meeks stated that there were risks associated with any of the possible sites considered for the housing project, and that Taku represented the most cost-effective option available to the decision makers.[72] Mr. Meeks is correct that there is always some level of risk associated with constructing anything on an NPL installation, which only emphasizes the need to follow Army preconstruction procedures. He is also correct in that it's sometimes necessary to take a calculated risk -- provided real effort is taken to acquire information needed for a responsible calculation.

2. Noncompliance with Army Procedures:

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[70] Tab 10F-2, Fosbrook; Tab 10G, Gardner

[71] See Tab 4B, figure 3 and Tab 4C, figures A1 & A2, for a comparison of where boring samples were taken to where magnetometer readings detected buried metal.

[72] Tab 10L-1, pages 6-7

The environmental component of the DD Form 1391 process was ignored. None of the information gleaned from the Alaska Garrison's 2003 CRREL survey or the COE's 2004 survey, or information provided by Army EOD experts made its way into a system designed to alert planners of potential problems. Had the DD Form 1391 process been followed, a written pronouncement that Taku was a large military landfill might have alerted Army Alaska senior leaders and the COE to the risks associated with the site and the need for a thorough plan to manage materials unearthed during construction. Had a properly completed DD Form 1391 been submitted to IMA PARO for certification, presumably a Public Works expert would have questioned the wisdom of building a family housing complex on top of a known 1950s era military landfill. At the least, proper adherence to established procedure would likely have resulted in additional site analysis, which might have convinced FWA garrison officials to avoid the site.

Army regulations hold the FWA Garrison Commander ultimately responsible for ensuring that an accurate preconstruction environmental survey is accomplished and properly recorded in the DD Form 1391;[73] but because of the expertise needed to understand the process, this obligation really falls to the FWA DPW Directorate and the Chief of USAG-AK Environmental. A DPW Director is tasked with managing installation construction planning, which necessitates ensuring that information upon which major decisions are based is complete and accurate. While it's reasonable that the FWA DPW director might not be able to distinguish between an adequate and inadequate survey, he should have interpreted the absence of any information on site conditions as suggesting that Army personnel weren't following regulatory requirements.

A review of DD Forms 1391 for two other projects, the Hangar 6 Replacement and new construction for the Aviation Task Force, suggests that the FWA garrison routinely bypasses the environmental survey process or routinely omits any information verifying that an environmental site survey had been accomplished.

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[73] AR 415-15, C-2d, "the garrison commander is responsible for the environmental survey including an unexploded ordnance survey, and associated documentation of a proposed MILCON or NAF construction site before site selection."

Neither of the DD Forms 1391 for these two projects contains any information about site conditions.

This apparent habit of ignoring that Army requirement is troubling in light of recent problems experienced at the Hangar 6 project. As with the Taku project, POL contamination was found on the Hangar 6 site. In addition, due to some still unresolved cause, several construction employees became ill while working on the site.[74] The failure to identify and plan for the need to manage and remove contamination on the Hangar 6 site resulted in considerable delay and unforeseen costs associated with investigating and managing site contamination once it was ultimately discovered.

3. No On-Site EOD Expert

One of the more troubling preconstruction events is the fact that FWA Garrison leaders ignored CPT Guard's recommendations and appear to have intentionally downplayed the potential munitions hazard in their report to the USARAK Commanding General. Although there are two versions of this event, Captain Guard's is more credible.

According to Mr. Meeks, Army EOD experts considered the items at Taku as simply "junk." The record, on the other hand, shows that responding EOD teams didn't consider the unearthed munitions items as something inconsequential. The reports prepared by EOD specialists indicate that the EOD response team was unable to determine whether the unearthed artillery rounds were a real hazard until after the casings were split open with explosives.[75] The elaborate safety precautions taken during each response action suggests that the EOD team didn't consider the artillery rounds to be nothing of consequence. The record also shows that Captain Guard sought his meeting with the Garrison commander only after he couldn't convince the Garrison safety officer or the Provost Marshall to suspend construction. Captain Guard's actions do not appear to be of an individual who is trying to escape some additional unnecessary work, as reported by Mr. Meeks.

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[74] Tab 9A, 14 Aug 06 Associated Press news story
[75] Tab 6A-F, EOD incident reports

CPT Guard's recommendations to LTC Brown and Mr. Meeks have proved prophetic. As warned, the site has been shown to be a disposal site for waste munitions items, some of which contain live explosives. More disturbing, these live munitions items have only been discovered after a civilian EOD expert was hired a year after construction had started. Photos taken by the contractor suggest that waste munitions items, and perhaps live munitions items, may have been inadvertently been thrown into the FWA landfill during 2005.[76]

4. PCB Warning:

In and of themselves, the positive PCB test results from the 2004 COE geotechnical survey weren't enough to indicate a real potential for extensive PCB contamination in the southwest corner of the site. Test results from the first phase of the COE's geophysical survey showed very low levels of PCB contamination. Subsequent tests by the COE showed the low-level PCB contamination was limited to a small area of the site. Site management plans included the removal of the known area of PCB contamination, which was sufficient to eliminate a potential hazard to construction workers.[77] Even if the COE had taken additional bore samplings at the areas where the magnetometer tests showed large pockets of buried debris, it's still likely that this subsequent field work would have missed the relatively small pocket of concentrated PCB waste that was eventually found on Construction Site 52. The COE site survey shows little metal debris buried in the southwest corner of Taku, where the Site 52 PCB was found.[78]

III. Initial Worksite Efforts to Identify and Manage Possible Contamination

A. Facts

1. Contract Requirements and Initial Contractor Efforts

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[76] For example, compare 2 May 06 S&W Photo (Tab 11C), with that shown in North Wind Munitions Report, Figure 7 (Tab 6G)

[77] The 1 ppm maximum concentration level is for PCB release or disposal since 1978. Current regulations do not require any cleanup of pre-1978 PCB unless the EPA administrator determines removal is necessary to ensure public health and safety

[78] Tab 4C, Figures A1 & A2

The Taku housing construction contract was awarded to Watterson Construction Company on 22 Sept 2004.[79] Excavation for building foundations and utility corridors began in spring 2005.[80] Watterson obtained a dig permit from DPW, as required by installation procedures before any excavation work is allowed on FWA.[81] To obtain the permit Watterson submitted construction plans to various DPW offices for review. One of these is the FWA Environmental Office, which routinely briefs the applicant on general procedures to follow should they find anything that appeared to be contamination. The permit granted to Watterson stated "known contamination in area, if discovered or suspected contact DPW Env. (sic)" Mr. Cliff Seibel, Compliance Branch Manager, signed the permit.

In addition to the warning provided in the permit, the COE contract also advised Watterson of possible contamination on the construction site and contains procedures the contractor is required to take should contamination be discovered.[82] While there is some mention of hazardous substances, the primary focus is on identifying and managing on-site POL contamination.[83] COE contract administrators were also told that inert training munitions items had been found on the site.[84]

COE contract administrators stated that Watterson understood that whenever contamination was detected or suspected, they were to notify the COE, who in turn would notify FWA Garrison Environmental. Crews were to move out of a suspected contaminated area and work elsewhere on the site until FWA Garrison Environmental personnel determined it was safe. FWA Garrison Environmental would make the necessary determination of suspected contamination, provide instructions for stockpiling on the construction site, and determine if and how the contaminated material would be disposed.[85]

To meet contractual obligations and dig permit conditions, Watterson employed Shannon & Wilson (S&W) to perform field tests on soil and excavated

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[79] Tab 7A-1, Contract Award
[80] Tab 10P-1, Wang interview
[81] Tab 7G, FWA Dig Permit
[82] Tab 7B-E
[83] Tab 7A-2, page 3
[84] Tab 10D, COE personnel consolidated statement, page 2
[85] Tab 10D, page 2

objects.[86] As required by the contractor's Field Screening and Analysis Plan, S&W kept meticulous records of any suspected contamination found on site.[87] These records show that suspected soil was field tested using handheld photoionization detector (PID) units.[88] S&W also took photographs of waste items unearthed in the construction process.[89]

Contractor field records and photos show that almost from the beginning of construction in spring 2005,[90] work crews began uncovering a significant amount of metal debris throughout the worksite.[91] Photographs taken during the first three months of excavation show 15-foot tall piles of debris staged on Taku.[92] Conspicuous in these piles are numerous rusted 55-gallon drums. Other photos show excavation sites with drums and other containers half uncovered, with the soil appearing discolored. Photos show metal cylinders, smaller containers (later identified as shipping tubes for artillery rounds), 5-gallon buckets, piping, tracks from heavy construction equipment, and even a discarded fork lift.[93]

S&W field notes record multiple discoveries of 5-gallon containers with crystallized white and pink chemicals, chemical residues found on containers, chemicals in soil, drums containing liquid residue, containers leaking liquids, and soil with heavy chemical smell at various areas of Taku.[94] Drums and containers found on site were a mixed dilapidated lot. Most were crushed to some extend and had openings caused by either corrosion or from being punctured by excavation equipment.[95]

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[86] Tab 11A, *Field Screening Sampling and Analysis Plan*, S& W, March 2005
[87] Tab 11B, Field test logs, March – July 2005

[88] See Tab 9E Photoionization Detector (PID) measures the change of signal as analytes are ionized by an ultraviolet lamp. It can be used alone to give a general idea of levels of soil contamination, but cannot identify the individual constituents that are present. The PID can detect VOCs and petroleum hydrocarbons. A PID can also be used in conjunction with a gas chromatograph to identify and quantify the individual constituents causing the soil contamination.

[89] Tab 11C, Photos and Shannon and Wilson photo log
[90] Tab 10P, Wang interview notes
[91] Tab 11B, S&W Field Notes, and Tab 11C, S&W photos
[92] Tab 11C, photo 5 Apr 05
[93] Tab 20C, S&W photos April 2005
[94] Tab 11D, S&W Field Notes Summary prepared by Army PSE team
[95] Tab 20C, photos

2. FWA DPW Efforts

Mr. Mike Meeks, FWA DPW Director, recalled visiting the Taku site in the spring, and seeing scrap metal on the site, including crushed drums. He assumed they were empty and simply trash.[96] Mr. Meeks understood that someone was testing the unearthed material but doesn't recall asking his staff about it. Mr. Meeks recalled that several individuals from FWA Environmental had visited the site, and was aware that the unearthed debris was being taken to the FWA landfill.[97] Mr. Meeks was also aware that POL contamination had been discovered on the site, explaining that it's common to encounter POL-contaminated soil when excavating in the FWA cantonment area.[98]

Mr. Meeks understood that when contamination was encountered, Watterson would focus its effort at another area of the site, pending removal of the contamination. Mr. Meeks understood that contaminated soil was being jointly managed by FWA DPW and the COE, with FWA Environmental having the authority to decide how contaminated soil was disposed.[99] Mr. Meeks explained that he was also aware that Army regulations prohibited military construction funds from being used for cleanup and disposal of contamination, and that garrison operational funds are to be used for such tasks.[100]

When he visiting the site, Mr. Meeks found Watterson's security efforts sufficient. He recalled a chain link fence was installed along the western border near existing housing units. Along the east border ran a tall embankment and railroad tracks. He believes the south was partially fenced in the section nearest the housing area, and there was an entry control process to the north.[101] When PCB waste was first reported, he asked about security efforts and was told that it had been fenced off with orange plastic construction fencing.[102]

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[96] Tab 10L-1, pages 1-3
[97] Tab 10L-2
[98] Tab 10L-1, page 5
[99] Tab 10L-2
[100] Tab 10L-2
[101] Tab 10L-2
[102] Tab 10L-2

3. Garrison Oversight Efforts on the Construction Site

Mr. Brian Adams manages the Clean Water and Solid Waste Programs for the FWA Garrison. He recalls visiting the Taku site during the early stage of construction to resolve a waste water discharge problem. According to Mr. Adams, the contractor was dewatering excavated areas and allowing contaminated ground water to simply drain into the installation's storm drain system. The FWA storm drain system runs directly into the Chena River. As explained by Mr. Adams, state law prohibits allowing anyone to discharge polluted water into the storm drain system.[103]

Mr. Adams recalled that the ground water being discarded from the Taku site was orange colored. Mr. Adams directed Watterson to test groundwater being discharged from the site.[104] The results showed that the discharge exceeded state water quality standard pollution levels for metals and POL contaminants.[105] The situation was promptly reported to state regulators. Mr. Adams was able to resolve the violation by having the contractor build holding ponds. These allowed pollutants to settle at the bottom as the water slowly flowed over an embankment and into the FWA drainage system.[106]

FWA operates a solid waste landfill on the installation. According to Mr. Adams, the landfill is operated under a permit issued by Alaska Department of Environmental Conservation (ADEC). The landfill is limited to construction debris, material from demolished buildings and other non-hazardous solid waste generated by Army activities. Household waste is not allowed in the landfill. Mr. Adams stated that the installation does employ an inspector to ensure that only authorized individuals dump items into the landfill, but truckloads being taken into the landfill don't receive detailed inspections. Mr. Adams stated that a construction contractor working on the installation would be allowed to use the FWA landfill. He also recalls

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[103] Tab 10A
[104] Tab 10A
[105] Tab 9B. SGS 3 May 05 laboratory report. Analysis of the water was limited to metals and POL-related constituents. Lab reports do not indicate that the water was tested for other hazardous substances.
[106] Tab 10A

multiple truckloads of scrap material being taken from the Taku site to the landfill; he understood this to be scrap mixed with dirt.[107]

In late April 2005 a construction crew uncovered containers partially filled with white granules. S&W personnel inspected the containers, reporting that the contents smelled of chlorine. The contractor segregated the suspicious material and called DPW Environmental.[108] Mr. Cliff Seibel visited the site to inspect the material. He recalled that when he arrived at Taku the contractor was unable to locate the containers. Mr. Seibel reports that Watterson finally found two containers two months later, and that these turned out to be a couple of crushed cans with a small amount of white residue. According to Mr. Seibel, Garrison Environmental classified these as "scrap" and passed the issue onto the COE project managers without testing the contents.[109] S&W personnel took a photograph of the containers reported to Mr. Seibel. [110]

In the summer of 2005, Mr. Seibel was Compliance Manager for DPW Environmental. His duties included general inspections of MILCON project sites to ensure contractors follow environmental regulations. Mr. Seibel reported that he frequently visited the Taku site in 2005 to inspect how Watterson was managing hazardous materials (fuel and other fluids used by construction equipment), dewatering activities and waste disposal.[111] All of the barrels and other containers he observed on the site were either empty or had less than an inch of liquid at the bottom. According to Mr. Seibel, all of the drums he inspected met the RCRA "empty" rule, and therefore he directed the contractor to dispose of them at the FWA landfill.[112]

A review of records provided by the Corps of Engineers and FWA DPW show that no lab tests were done on the contents of any drum or other container that was removed from the Taku site between 30 Mar 2005 and 20 June 2005. There are no records for this period of any laboratory tests being conducted on soil samples

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[107] Tab 10A
[108] Tab 9C, S&W field notes & photos
[109] Tab 10M-1, Seibel interview
[110] Tab 9C-2, S&W 26 Apr and 30 Apr 05, photographs. The photos show the containers are crushed as reported by Mr. Seibel, but they also show a considerable amount of white granules within.
[111] Tab 10M-1, Seibel interview, pages 3-5
[112] Tab 10M-2 Seibel email 15 No 2006

gathered from the vicinity of unearthed drums or where other containers were uncovered on the site.[113] All metal debris removed from Taku was sent to the FWA landfill.

4. Contractor Field Screening Efforts

S& W records show that handheld photoionization (PID) test units were used extensively during excavation to identify possible contamination.[114] Field reports show multiple occasions where PID units detected POL and other volatile organic compounds (VOC) in the soil and in drums.[115] Contemporary field reports also show that S&W and Watterson were fairly diligent in reporting site conditions to COE representatives. In fact, on one occasion, a Watterson crew reported they had unearthed a drum with white crystals attached to the side. On careful inspection the white crystals turned out to be ice.[116]

The use of PID units on construction sites is a fairly standard practice when excavating in an industrial area where some type of contaminant is likely to be found. These handheld units are useful for initial identification of possible POL, BTX (benzene, toluene, and xylene) and other volatile organic compounds in soil. Because of the limitations in detecting other hazardous constituents, such as heavy metals and DDT, PID units generally function as a ready means to identify those areas on a worksite where vapor hazards may present a worker safety concern.[117]

Ms. Fosbrook and Ms. Deardorff[118], USAG-AK Environmental, recall receiving word in June 2005 that POL contaminated soil had been discovered at Taku. The

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[113] Tab 9D, Email from DPW Director verifying that no tests were done on any drums removed from Taku.
[114] Tab 11B S&W field notes
[115] Tab 11D S&W field note summary
[116] Tab 11B S&W field notes

[117] Tab 9E, *Photoinonization Detector (PID) HNU*, U.S. EPA publication, 10/06/94. A PIC measures the change of signal as analytes are ionized by an ultraviolet lamp. It can be used alone to give a general idea of levels of soil contamination, but cannot identify the individual constituents that are present. The PID can detect VOCs and petroleum hydrocarbons. A PID can also be used in conjunction with a gas chromatograph to identify and quantify the individual constituents causing the soil contamination.

[118] Tab 10E-1, Deardorff interview, pages 6-9

contamination was located at the north end of the site. Fosbrook recalls that the Alaska Department of Environmental Conservation (ADEC) was notified, as required by a two-party agreement FWA has with the State.[119] Both Fosbrook and Deardorff recall that the contaminated soil was properly sorted and stockpiled according to POL concentration levels. Their overall impression was that Watterson was managing the contamination properly.

On 15 July 2005, three contractor employees standing near an excavation site where construction crews were backfilling dirt, became ill. The event was reported to Watterson, but there's no record of the event in FWA Environmental records.[120]

At no time during the 2005 excavation did Watterson, the COE or FWA DPW personnel report the excavation of anything suspected of being a munitions item.[121] As part of an on-going Preliminary Source Evaluation[122] following the discovery of PCB waste at Site 52, DPW and COE environmental specialists have carefully studied S&W field notes and photographs in an effort to determine what types of items were sent to the FWA landfill.[123] These photos and field notes were also sent to Army EOD experts in Huntsville, Alabama.[124] Based upon this information Army specialists have concluded that several munitions items were likely sent to the FWA landfill with the rest of the material unearthed at Taku.[125]

One photograph taken by S&W in 2005, shows an item that initial analysis indicates may be the same type of chemical canister bomb unearthed on Taku during the summer of 2006.[126] The photo reveals some type of liquid leaking from the canister. As with the other items unearthed on the Taku site in 2005, no tests were performed on this munitions item to determine if it contained a hazardous substance before being sent to the FWA landfill.

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[119] Tab 10F-2, Fosbrook Interview, pages 8-10
[120] Tab 11-A, S&W field notes; 11-D, S&W field note summary, page 3
[121] Tab 11B S&W field notes
[122] A Preliminary Source Evaluation (PSE) is an initial examination of conditions to determine whether a potential contaminated area should be further investigated for remediation according to the procedures set out in the Federal Facility Agreement.
[123] Tab 10F-2 , Fosbrook interview
[124] Tab 13A-4, Email messages April 06
[125] Tab 14, PSE Report, pages iv-vi
[126] Tab 11C, 2 May 05 photo

In June 2006, a civilian EOD technician was employed by North Wind as part of its investigation of the possible extent of site contamination in light of the discovery of PCB and other hazardous substances.[127] Shortly after assuming his duties on the site, the EOD specialist identified several munitions items containing explosives or propellants. One of these was an unarmed 20-pound fragmentation bomb that construction workers had left next to a building.[128]

5. Construction Site Waste Management Responsibilities

According to Mr. Lucht[129] and Mr. Kevin Gardner[130] (current chief of the DPW Environmental Division), the Garrison understood that Watterson and COE were responsible for managing and disposing of all material uncovered on Taku. They reasoned that because the drums and other material were uncovered as a consequence of construction efforts, this material was construction debris; and because it was construction debris, responsibility for proper waste determination and disposal fell upon Watterson and the COE. Mr. Lucht reports that FWA Garrison Environmental personnel were complaining that the COE wasn't properly managing the contractor's disposal of waste materials uncovered at Taku, and that FWA Garrison staff were having to do the Corp's job.[131]

Mr. Gardner stated that he is aware that drums and other containers were sent to the FWA landfill without waste analysis.[132] He is also aware that a review of the S&W photos and field notes suggests that munitions components were most likely thrown into the landfill as well. Mr. Gardner stated that Garrison Environmental has not taken any effort to locate possible munitions items in the landfill, nor tested any of the containers removed from Taku and taken to the FWA landfill. [133]

Mr. Lucht[134] and Mr. Meeks[135] are also aware that material unearthed on Taku was sent to the FWA landfill. They understand that the material was simply

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[127] Tab 10G, Gardner interview pages 31-32; Tab 6G, North Wind EOD report
[128] Tab 6G, North Wind EOD report
[129] Tab 10-O, pages 8-10
[130] Tab 10G, Gardner interview pages 27-29
[131] Tab 10-O, page 9
[132] Tab 10G, pages 27-29 & 35-36
[133] Tab 10G, pages 36-37
[134] Tab 10-O, pages 27-31

trash. They don't know whether Watterson, the COE or Environmental personnel took any effort to verify that it was proper to send this material to the landfill, but both assume proper measures were taken.

Garrison procedures require contractors operating on the installation to monitor the work site for possible contaminated soil or water but do not address the possibility of waste containers being excavated. Garrison hazardous substance response procedures are designed for spill events. [136] Individuals who spill POL or hazardous substances are required to undertake the cleanup.[137] Local procedures for managing excavated soil require "field screening for petroleum (plus any other identified contaminants)." Local procedures also state that with respect to construction activities, the Garrison is generally responsible for hazardous waste generated as a result of demolition activities.[138]

B. Controlling Authority

1. 40 CFR § 262.11 Hazardous Waste Determination. *A person who generates a solid waste, as defined in 40 CFR 261.2, must determine if the waste is a hazardous waste before disposal.*

2. 40 CFR § 266.202. A used or unused munitions item is a solid waste when abandoned through disposal.

3. 40 CFR § 270.30(l). A permitted facility is required to report an actual or anticipated violation of RCRA.

4. Criminal Liability. A federal employee may be prosecuted for knowing violations of RCRA.[139] Under the doctrine of Responsible Official, federal managers who have management responsibilities for an environmental compliance activity, may be held criminally liable for knowingly failing to correct activities that violate federal

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[135] Tab 10L-1, pages 10-11
[136] Tab 12A
[137] Tab 12A, section 3
[138] Tab 12B
[139] 42 USC § 6928(d); Tab 15A, *U.S. v. Dee*, 912 F.2d 741 (4th Cir. 1990)

environmental law.[140] Federal managers who knowingly direct others to engage in criminal violations of RCRA, are themselves criminally liable.[141]

5. Civil Liability. Strict liability is imposed for RCRA violations. A federal manager may receive a civil fine for failing to ensure subordinates adhere to regulatory requirements, or fail to timely correct regulatory violations.[142] Federal managers or employees are not subject to personal fines if the offense occurred within the scope of their employment.[143]

6. The Ft. Wainwright Federal Facility Agreement obligations extend to newly discovered areas of potential contamination. When new areas of possible contamination are discovered, the FFA requires the Garrison to perform a Preliminary Source Evaluation (PSE). The purpose of the PSE is to evaluate a potential contaminated site to determine its qualitative risk to the environment and public health. At the conclusion of the PSE, a decision is made whether remedial action is warranted. If warranted, the contaminated site is included as a new component of Operable Unit 5.[144]

7. AR 415-15, Section 1-42b: *The installation is responsible for the remediation/cleanup of environmental contaminants discovered during the execution of a MILCON project. This remediation/cleanup will be funded from other than MILCON unless specifically identified, authorized, and appropriated as part of the MILCON project, or unless environmental restoration funds have been transferred to the MILCON project for that purpose. Construction contractor costs (such as direct delay costs and unabsorbed or extended overhead) incidental to discovery, remediation, and cleanup, however, will be MILCON funded to the extent it is determined that the Army is responsible and liable for such costs.*

8. DA PAM 200-1, Section 5-2, requires an installation to establish procedures for the proper characterization of waste, noting that "Improper waste characterization is a common source of noncompliance."

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[140] Tab 15A, *U.S. v. Dee*, 912 F.2d 741 (4th Cir. 1990)
[141] Tab 15B, *U.S. v. Hoflin*, 880 F.2d 1033, 1039 (9th Cir. 1989); Tab 15C, *U.S. v. White*, 766 F. Supp. 873, 894-895 (E.D. Wash. 1991);
[142] 42 USC § 6928(g)
[143] 42 USC § 6961(a)
[144] Tab 2A, FFA (1991), Attachment I, Section 4.3

C. Analysis of Facts

Alaska Garrison DPW directors and Environmental personnel failed to live up to their legal obligations. Army regulations establish clear lines of responsibility for contamination found on a MILCON site. An installation is responsible for the cleanup of all contamination encountered during MILCON construction. Site cleanup activities include all steps needed to properly investigate the extent of contamination and remove contamination, or to reduce the risk imposed by the contamination. "Contamination" is a general term for a wide range of chemicals and wastes regulated by various federal and state programs. Contamination includes soil mixed with POL waste, soil mixed with hazardous substances, chemical waste, munitions items and any other solid waste material buried on the site.

1. Solid Waste Management

Upon first learning that empty drums and containers with holes were unearthed at Taku, the first question FWA Environmental specialists should have asked is whether these were buried empty, or leaked after being buried. A review of DPW records and information provided by key personnel, shows that FWA Environmental specialists took little, if any, effort to determine whether the containers unearthed on Taku held hazardous substances when initially buried. FWA Environmental personnel should have arranged for periodic soil samples to be taken from areas were caches of drums were unearthed. FWA Environmental personnel should have been tracking identified contaminants and disposal patterns as a minimum effort to characterize the types and extent of possible contamination.

In several areas where caches of drums were uncovered, photos and field reports record staining of the soil surrounding the containers.[145] Neither the FWA Garrison nor the COE has records of any such soil being sent for laboratory analysis, which would be a routine undertaking upon such discovery. It appears FWA Environmental specialist either failed to appreciate the possibility that the

[145] Tab 11C

contents may have leaked into the soil, or have no familiarity with contaminated site investigation protocol.

The Garrison also failed to properly manage the disposal of waste removed from the construction site. Federal law imposes strict obligations on waste generators to verify waste material is not hazardous before disposal.[146] In this situation, the garrison is the waste "generator" by virtue of the waste being on Garrison real property and because Army regulations assign responsibility for MILCON cleanup to the Garrison.[147] Notwithstanding that responsibility, drums, containers and other waste items were sent to the FWA landfill without any reasonable attempt to determine whether these contained some amount of hazardous substance.

Federal law doesn't require waste generators to test every item before being thrown away. A generator may use knowledge of a waste stream to conclude that specific items or types of items aren't hazardous.[148] An example would be where the generator knows the specific chemical makeup of waste materials, or has periodically tested samples of waste that is routinely generated in a particular process. Because of the varied and unknown nature of drums and other waste items uncovered at Taku, FWA Garrison personnel can't legitimately claim they had sufficient knowledge of the waste stream to simply conclude that the discarded items weren't hazardous.

Mr. Seibel reported that he visited the site many times to inspect drums and other containers. As the FWA Environmental person charged with oversight of construction activities, he was obligated to ensure waste items were being properly characterized before disposal. At no time during the excavation process were any tests performed on any of the unearthed containers or the contents of these containers prior to their disposal. Mr. Seibel stated that because the containers were empty, he concluded that the contractor was free to throw these into the landfill.[149]

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[146] 40 CFR § 262.11
[147] AR 415-15, Section 1-42b
[148] 40 CFR § 262.11(c)(2)
[149] Tab 10M-2

Federal law does allow a generator to simply throw away empty hazardous substance containers, provided the residue is less than one inch or less than three percent of volume.[150] There are no records to show that any effort was taken to measure residues found in any of the containers unearthed on Taku. Photos of cans containing white materials look to have more than threshold residues.

Where a near empty container has "acutely hazardous" residue, a generator may not dispose of the container until it has been rinsed clean in accordance with RCRA procedures.[151] Because federal law imposes an affirmative obligation to verify the nature of a waste before disposal, a container may only be thrown into a landfill if the generator knows with sufficient certainty that it doesn't contain any acutely hazardous residue. The record is void of any effort taken to test residual contents to determine whether these were acutely hazardous constituents. Because of the failure to proper characterize the residue of any of the waste containers unearthed at Taku, disposal in the FWA landfill was illegal.

The problem goes beyond failing to ensure material removed from the site wasn't hazardous. There's no record indicating that FWA Environmental personnel ever considered the possibility that the now-empty drums and other containers may have contained some substance when buried at Taku. Aside from the limited PID screening tests, no effort was made to ensure that soil being shifted across the housing construction site wasn't contaminated.

Mr. Seibel's actions reflect either a lack of substantive understanding of controlling regulations and procedures, or disregard for these regulations and procedures. Mr. Seibel spent considerable time on the site, and was aware of the amount and types of waste being generated. He was also aware of how the waste was being disposed. With such knowledge, Mr. Seibel had an obligation to ensure that the FWA Garrison Commander, FWA DPW Director and USAR-AK Environmental Chief were aware of the various violations occurring on site. Based upon his comments and actions, it appears Mr. Seibel considered the FWA Garrison's role was to advise the COE and contractor, instead of actually being

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[150] 40 CFR § 261.7

[151] 40 CFR §c 261.7. Containers used for acutely hazardous waste must be triple rinsed before land disposal.

responsible for ensuring proper waste management. Even if the FWA Garrison's role had been that of advisor, Mr. Seibel would have at least been obligated to inform the COE that Taku waste was being mismanaged and improperly sent to the landfill.

USAG-AK procedures for characterizing and managing excavated waste are deficient. FWA being an NPL installation, the probability is always high that solid waste will be excavated during a construction project. USAG-AK has little guidance advising the uninformed on proper waste management. Procedures are needed as to what excavated items should be reported, how to manage solid waste items on a construction site once they are excavated, and who may authorize removal or disposal of such items.

For those few USAG-AK waste management procedures that do exist, USAG-AK needs to ensure Environmental personnel are informed and follow such procedures. With respect to excavated soil, USAG-AK procedures require testing for possible POL constituents, unless there's evidence of other possible contamination. At Taku, there was ample evidence of other possible hazardous constituents, yet no effort was taken to test any of the excavated containers, chemicals discovered or stained soil.

2. Munitions Waste

Based upon the Army's analysis of S&W field notes and photos, the probability is high that munitions waste items were also thrown into the FWA landfill without any attempt to determine if such waste items contained hazardous constituents. Because they were buried on Taku, any munitions items unearthed during construction should be considered solid waste.[152] If the munitions component contains a hazardous substance, then the waste munitions item must be managed as hazardous waste.[153] As with any solid waste, the generator must determine that the item doesn't contain hazardous constituents prior to disposal. Because the Garrison was on notice that munitions waste had been buried on Taku, it had a legal

[152] 40 CFR § 266.202
[153] 40 CFR § 266.206

duty to ensure some process was in place to properly characterize munitions waste items before these were sent to the landfill.

The record shows that munitions items were identified on Taku almost immediately after the Garrison acquired the services of a contract EOD expert in July 2006. The fact that construction workers unknowingly left a fragmentation bomb next to a building, suggests that other munitions items were treated in a similar fashion. This illustrates exactly why Captain Guard so emphatically recommended that the Garrison have a civilian EOD specialist on scene during all construction activities. What FWA Garrison officials either failed to realize or refused to accept is the likelihood (and actual occurrence) of construction workers not being able to discern munitions materials from other unfamiliar waste metal items unearthed from the Taku landfill.

3. FWA Garrison Leadership

The record reveals that Mr. Meeks took little effort to ensure that Taku waste was properly managed. Although the FWA Garrison Commander had ultimate responsibility for waste management for the Taku project, as a practical matter execution of this obligation properly belongs to the FWA DPW Director. There are no records showing that Mr. Meeks made any inquiries to learn of the scope and nature of waste being found on site. Nor are there any records showing he sought assurances from his Environmental staff that proper measures were being taken for the disposal of waste items removed from the site. It's possible that Mr. Meeks may not have understood the Garrison's legal obligations, but there's also no record that Mr. Meeks sought legal advice this matter. In fact, Mr. Meeks stated that he avoids seeking legal assistance from Department of Army attorneys. [154]

4. Assessment of COE Fulfillment of Legal Obligations

In light of the fact that the family housing complex was being built on top of a known military landfill of undetermined waste, the COE's and Watterson's waste detection and on-site management plans were inadequate. As a likely result of the

[154] Tab 10L-1, page 28

contract emphasis on POL contamination, waste detection and management efforts were focused on the probability of encountering POL contaminated soil. While this would be a reasonable approach for a vacant site elsewhere on the installation, Taku was a known military landfill.

The COE contract management team incorrectly assumed that Watterson was responsible for making contamination determinations that the Army would use as the basis for waste disposal decisions. Garrison personnel apparently shared this mistaken assumption. What the two groups didn't understand or appreciate is the prohibition of using MILCON funds for environmental remediation.[155] A substantial portion of any remediation effort is detection and characterization of possible waste. If Watterson's contractual obligations included pre-disposal waste characterization, such action would have violated Army regulations and likely been a violation of federal fiscal law.

COE and DPW personnel also failed to appreciate that because it could not be called upon to characterize on-site waste, Watterson's field testing efforts (through S&W) were for a completely different purpose. S&W field test procedures were designed to identify possible hazards to workers and not for waste characterization. This is why field tests were limited to the use of PID units, which offer only basic detection of possible harmful ambient vapors.[156]

Neither the Corps nor Watterson can legally be held accountable for failing to take steps to detect and manage munitions waste items. The failure to properly identify any munitions items uncovered on site is largely due to the FWA Garrison leadership's decision to ignore the warnings of Army EOD experts, and the FWA Garrison leadership's apparently deliberate efforts to understate the munitions threat potential.

With respect to cleanup and disposal of on-site waste materials, COE and contractor legal obligations are also limited. The COE and contractor responsibility was limited to taking reasonable measures to identify possible waste and contamination, notify the Garrison of such discoveries, and manage excavated

[155] AR 415-15, Section 1-42.b: The installation is responsible for the remediation/cleanup of environmental contaminants on a MILCON sit.
[156] Tab 9E, EPA guide on PID units

material responsibly on site, pending Garrison disposal actions. COE also has a general obligation to ensure that the contractor is taking the necessary steps to manage suspected hazardous waste on site until Garrison personnel determine proper disposition.

This delineation of responsibilities between Garrison and COE is to ensure fund expenditure conforms to federal fiscal law. As stated, MILCON funds may not be used for environmental restoration. Operational & Maintenance account funds or money from the Defense Environmental Restoration Account (DERA) is the proper resource for covering environmental investigation and cleanup expenses. On rare occasions, a MILCON appropriation specifically includes money for environmental restoration, but only that amount may be used for cleanup activities.[157]

There's some question that the COE may have allowed Watterson to undertake some level of site remediation in violation of Army regulations and fiscal law. Available information shows that Watterson transported a considerable amount of waste from the Taku site to the FWA landfill, and that Watterson apparently expended considerable effort to stockpile and manage contaminated soil found on the site. Both are remediation efforts required of any site cleanup action, and it's likely that Watterson was paid for this effort.

Watterson did develop and implement reasonable procedures to field screen for possible contamination. Records show that S&W was diligent in using PID units to field screen excavated soil and materials; but field screening with PID units offers only a gross indicator of contamination and has real limitations. Many hazardous chemicals, such as heavy metals, PCBs and some pesticides, can't be detected with PID units.[158]

The greatest failing by COE and Watterson is that neither appeared concerned that the FWA Garrison wasn't taking adequate steps to characterize the waste being unearthed on the site. The nature of the material being excavated and S & W field tests should have alerted both to the strong likelihood that hazardous materials were on the site, including compounds that PID units weren't able to

[157] AR 415-15, Sect 1-42.c
[158] Tab 9E

detect. Proper characterization of waste in a working environment is essential to ensure worksite safety. Neither the COE nor Watterson could be certain that construction workers had the necessary safety equipment if they didn't have a complete understanding of the possible hazards on the site. The failure to ensure an accurate assessment of site conditions may have led to three individuals becoming ill on the site in 2005.[159]

5. Individual Liability

As discussed above, actions by some FWA personnel appear to be general dereliction of duty and civil violations of RCRA. More serious still, some actions by FWA personnel may constitute criminal conduct. Federal courts have imposed criminal liability on federal employees who violate federal hazardous waste management regulations, or on federal manager who fail to correct continuing violations of federal environmental regulations. Where the alleged offense is the improper disposal of hazardous waste, the employee is criminally liable if the proof shows he or she had the authority to direct others to accomplish the disposal action, and possessed the necessary knowledge that the material was hazardous.[160] To meet the knowledge requirement, the government need only show that the federal employee was aware that the item discarded had the potential to be harmful.[161]

The Garrison had responsibility for the disposal of Taku waste and contaminated material, and the authority to direct (through the COE) the contractor to dispose of the waste material uncovered at Taku. In at least one official visit to the site, Mr. Seibel was asked for instructions on how Watterson was to dispose of cans containing white, chlorine-smelling pellets.[162] He directed it to be thrown into the landfill without analysis. Mr. Seibel can be held criminally liable for this event if a jury determined that someone with Mr. Seibel's experience and training would know

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[159] Tab 11D, S&W field notes summary; Tab 10F-3 Fosbrook email response concerning contract employees becoming ill on the Taku site

[160] Tab 15D, *U.S. v. Carr*, 880 F.2d 1550, 1551 (2nd Cir. 1989), U.S. v. Dee, 912 F.2d 741 (4th Cir. 1990)

[161] Tab 15B, *Hoflin* at 1039

[162] Tab 14 PSE Report. Site investigation located containers of super tropical bleach (STB), a reactive/corrosive material. (Tab 18A) The STB found on site looks much like the white powder reported to Mr. Seibel.

that a container of chlorine-smelling waste material is potentially harmful. This same standard would apply to drums and other containers found on site emitting VOC fumes, as recorded by S&W field notes.[163]

Federal supervisors may be held criminally liable for negligent and inept oversight of hazardous waste storage or disposal actions.[164] As the FWA Garrison official responsible for the construction activity, Mr. Meeks would be criminally liable for illegal disposals in the FWA landfill if proven he was aware that the materials "had the potential to be harmful to others or to the environment,"[165] had oversight responsibility for the management of the waste material, was aware of how the material was being managed, and took no steps to correct regulatory violations.[166] The record clearly shows that Mr. Meeks was aware that drums and other containers unearthed at Taku were being thrown into the landfill. A jury could be persuaded that, based upon the photographs showing the conditions of the drums, the stains on the drums, stains in dirt and the environmental history of FWA, a reasonable person would assume these to be potentially harmful. A jury might also reason that his failing to make inquiries on management practices was a deliberate act to remain uninformed.

IV. Investigation and Management of PCB Waste at Construction Site 52

A. Facts

1. Initial Discovery & Response

On 23 June 2005, a construction crew reported a heavy "mothball" smell coming from a freshly excavated hole at Building Site 52 in the southwest corner of Taku. Readings from an S&W PID unit indicated non-POL contamination. S&W field notes don't indicate use of PCB field screening kits were used on the site.[167]

Watterson reported the discovery to the COE on 23 June 2005, by leaving a message on a telephone answering machine. COE contract administrators stated

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[163] Tab 11D, S&W field note summary
[164] Tab 15A, *U.S. v. Dee* at 747
[165] Tab 15B, *U.S. v. Hoflin*, 880 F.2d 1033, 1039 (9th Cir. 1989), citing US v. Greer, 850 F.2d 1447, 1450 (11th Cir. 1988)
[166] Tab 15B *U.S. v. Hoflin*, 880 F.2d 1033, 1039 (9th Cir. 1989), citing US v. Greer, 850 F.2d 1447, 1450 (11th Cir. 1988)
[167] Tab 11B, field notes

that the excavated area was marked and Watterson was told to keep crews away from the area. COE administrators report that the information was relayed to FWA Environmental on 24 June 2005.[168]

Accounts by FWA Environmental personnel and FWA Garrison records contradict the COE version of events, and state that FWA Environmental wasn't notified of the incident until 29 June 05.[169] On that day, Mr. Bill Snyder, FWA Environmental, inspected Building Site 52. [170] On 30 June 2005, soil samples were gathered by North Wind and sent to SGS laboratory for analysis.[171] According to FWA Environmental personnel, Watterson was directed to mark the excavated area with plastic caution tape and told to keep construction crews out of the area. The adjacent excavated soil piles were covered and small colored flags were placed on top of the piles.[172]

FWA Environmental received the soil test results on 12 July 2005. The laboratory reported that the results were inconclusive and recommended a second round of tests for possible PCBs.[173] A week later, Mr. Seibel reported the event to Mr. Terry Boone, who was then Chief of USAG-AK Environmental.[174] According to Ms. Fosbrook, Mr. Boone didn't believe it was that serious of a situation, and directed that Mr. Seibel take the lead in managing the situation due to his proximity and prior experience with PCB spills.[175] Following a conference call between Environmental personnel, the staff concluded that a second round of tests was needed.[176] Watterson was told to restrict construction activities from the immediate area of Building Site 52.[177]

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[168] Tab 10D, Corps Responses pages 6-7
[169] Tab 13A-9, timeline for FWA actions
[170] Mr. Snyder was one of the first Garrison personnel to respond to the report of a hazardous substance release at the Hangar 6 construction site in 2006, in which four construction workers became ill from exposure to an unknown substance. Mr. Snyder reports that the smell from Site 52 was the same as that at Hangar 6. See Tab 10R
[171] Tab 13A-9, timeline
[172] Tab 10F-1, Fosbrook, 24 Oct 05 statements; Tab 10L-4, Meeks interview
[173] Tab 10C, Brock interview, page 1
[174] Tab 13A-9, timeline
[175] Tab 10F-1
[176] Tab 10F-1, Fosbrook 24 Oct 05 statement
[177] Tab 10F-1

On 22 July 05, ten soil samples were taken from the excavated area and adjacent soil piles. The FWA Garrison received the second test results on 1 Aug 05.[178] These showed extremely high concentrations of PCB (>100,000 parts per million (ppm) as compared to the EPA Residential Cleanup Standard of 1 ppm) and lesser concentrations of other hazardous constituents regulated under the Resource Conservation and Recovery Act (RCRA).[179] Additional tests also confirmed the soil contains dioxins and trichlorophenols.[180] The USAG-AK Commander, FRA DPW Director Al Lucht, FWA DPW Director Mr. Meeks and COE contract administrators were told of the findings.[181] Both Ms. Fosbrook and Mr. Seibel also notified EPA and State regulators of the discovery.[182]

At some point between receiving the reports for the first and second set of soil tests, a heavy equipment construction crew removed the warning tape, entered the Building Site 52 restricted area, and removed PCB contaminated soil for use elsewhere on the site. Field tests showed that the contaminated soil was taken to various parts of Taku, and that equipment had also tracked the soil throughout the site.[183] On 4 Aug 05, the remaining stockpiled soil was covered and orange construction fencing was installed around the immediate area.[184] On 10 Aug 05, warning signs were placed on the fence.[185]

2. Office Discord

In the remaining days of August, a team consisting of DPW senior personnel, Environmental specialists, USAG-AK legal and Garrison Public Affairs was formed and began developing a plan for investigating and resolving the PCB contamination. Ms. Fosbrook was principal advisor for site investigation and possible remediation of

[178] Tab 16B, Laboratory report
[179] Tab 16B Hazardous constituents include MEK @52 mg/kg; 1,2-dichlorobenzen (aka ortho-dichlorobenzene, o-dichlorobenzene) @43 mg/kg and toluene @54.6 mg/kg.
[180] Tab 13A-2, Seibel email to EPA, 9 Aug 05
[181] Tab 10F-1, Fosbrook interview
[182] Tab 10F-1 & Tab 13A-1 & 2 emails
[183] Tab 10F-1; Tab 13A-4 email
[184] Tab 13A-9 timeline
[185] Tab 10F-1

the PCB contamination. Mr. Seibel served as primary Environmental specialist for on-scene management of the PCB contamination.[186]

Records and email traffic show a definite difference of opinion between Ms. Fosbrook and Mr. Seibel as to the origin of the contamination and the proper method for managing the contamination. Based upon his understanding that part of a wood power pole and anchor were found at Site 52, Mr. Seibel maintained that the origin of PCB contamination was most likely a leaking pole-mounted transformer.[187] He also believed that the discovered PCB was an isolated incident and not indicative of other possible contamination.[188] Ms. Fosbrook believed the PCB at site 52 was part of more extensive contamination on Taku.[189] Historic photographs showed that in the past Taku had been used to stage field communications systems, and had been used for other military activities.[190] Ms. Fosbrook also noted that the extremely high concentration of PCB was more appropriate for communications systems than power transformers.[191] In addition, S&W field notes made no reference to parts of a power pole being found at the Site 52 excavation.[192]

In line with this split in opinion on the origin of PCB contamination, there was a north and south split in the best method to manage the construction site during the initial phase of the site investigation. Mr. Seibel lobbied for restricting access and construction to only the area of known contamination, perform field tests in a pattern moving away from Site 52, and only close areas where tests showed likely PCB.[193] Mr. Meeks apparently favored this approach.[194]

Ms. Fosbrook, favored a more conservative approach. Her recommended plan was to start by restricting six of the building sites nearest to where the PCB was discovered; perform field tests in a pattern moving towards the known

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[186] Tab 13A-9 email
[187] Tab 10F-1; Tab 13B-1 email
[188] Tab 13 B-1, B-7 email
[189] Tab B-7 email
[190] Tab 14, Preliminary Source Evaluation
[191] Tab 10F-1
[192] Tab 11D, note summary
[193] Tab 13A-3 email
[194] Tab 9F-4, Boone's statement

contamination; and reduce the restricted area as tests showed areas clear of PCBs.[195] The Garrison chose to go with the more conservative plan.[196]

3. Senior Personnel Problems

Tensions reached a peak within the Garrison on 27 Aug 05. The Environmental staff was hosting a teleconference with EPA and State regulators to provide an overview of preliminary findings and the Garrison's proposed site investigation plans. Mr. Boone and Ms. Fosbrook told regulators that the Garrison intended to delay construction in the contaminated area, expand the fenced restricted area to include Building Site 52 and five adjacent building sites, and to conduct a thorough series of tests to determine the full extent of contamination.[197]

Mr. Boone was present at the start of the teleconference but left for a meeting with Mr. Mark Vaughn (USAG-AK Executive Officer), Mr. Meeks, and Mr. Lucht. The Taku PCB situation and the need to expedite testing and minimize project delay was the focus of this meeting. Participants recall that there was a debate on two recommended courses of action. The first was to limit the restricted area to the known contamination at Site 52, focus the testing on areas where the contractor needed immediate access to install utility systems, and to expand the restricted area if tests showed PCB contamination in other areas. The second course of action was to expand the restricted area to include Site 52 and five adjacent building foundation sites, immediately test areas the contractor needed quick access, and reduce the restricted area when tests showed no contamination. Mr. Meeks and Mr. Lucht understood that USAG-AK decided to maintain the restricted area around the immediate area of Site 52, and focus testing on pathways and areas the contractor needed access to install utility lines.[198] Mr. Vaughn's understanding of the way ahead was different than the DPW Directors' understanding. He understood the

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[195] Tab 13A-5 email
[196] Tab 10F-1, Fosbrook statement
[197] Tab10F-1
[198] Tab 9F-3

Garrison would maintain the restricted area as decided by Col Donna Boltz, USAG-AK Commander, which included Site 52 and five adjacent building sites.[199]

At the meeting with Garrison officials, Mr. Boone was also presented with his performance appraisal. Mr. Boone expressed his displeasure with his rating to Mr. Lucht (rater) and Mr. Vaughn (senior rater). According to Mr. Vaughn, both he and Mr. Lucht had been unhappy with Mr. Boone's performance since assuming the position as chief of the USAG-AK Environmental Division.[200]

Mr. Boone returned to the teleconference with the regulators and announced that the Garrison's plans had changed. Mr. Boone reported that the Garrison had decided to not expand the restricted area, and that field sampling had to be accomplished within five days. Mr. Boone stated that the Garrison was concerned with the costs associated with delaying construction; that the Garrison was not that worried about the PCB contamination; and that construction would be allowed in areas with PCB contamination. According to those present, Mr. Boone also added that PCBs were "not that big a deal" and that he was more concerned about the dioxin contamination. Participants reported Mr. Boone's demeanor as curt and that he was unwilling to discuss the situation.[201]

EPA and State regulators sent messages to the Office of the Secretary of the Army protesting the Garrison's decision to unilaterally change the plan for site investigation and the Garrison's apparent lack of concern for safety.[202] The USAG-AK commander quickly notified regulators that Mr. Boone had misstated the Garrison's plans, that the Garrison did consider PCB contamination a serious matter, and that it intended to abide by the plan as presented to EPA and the State.[203] According to Ms. Fosbrook, the USAG-AK commander eventually directed the restricted area be expanded to include eight building sites in the southwest corner of Taku.[204]

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[199] Tab 10Q Mr. Vaughn interview
[200] Tab 10Q
[201] Tab 9F-2&3
[202] Tab 9F-3
[203] Tab 9F 1-5
[204] Tab 10F-1

In September 2005, USAG-AK initiated action to suspend Mr. Boone for two weeks without pay. The reasons cited were that Mr. Boone had misrepresented the Garrison's intended course of action for managing and investigating the PCB contamination, his cavalier attitude towards PCB contamination, and his offensive manner in dealing with his subordinate and regulators. Mr. Boone challenged the suspension, and the matter was settled. By agreement, Mr. Boone vacated his position as chief of Garrison Environmental and exercised his right to return to his former job in the Lower 48.[205]

The Garrison appointed Ms. Fosbrook as lead for the site investigation and any possible environmental remediation efforts. She was assisted by Ms. Therese Deardorff, Ms. Kate Siftar (Chief of Environmental Compliance, FWA) and Mr. Seibel.[206] In January 2006, Mr. Kevin Gardner was selected as the new USAG-AK Environmental chief.[207]

4. PCB Waste Pile Disposal

In late September 2005, after conferring with representatives of EPA and ADEC and other members of the PCB remediation group, Ms. Deardorff requested that FWA Environmental initiate actions to remove and dispose of the contaminated soil from Site 52.[208] These were the soil piles from which the initial two sets of soil samples had been collected in June and July 2005, confirming concentrations of PCB and hazardous constituents. The plan was to load the contaminated soil in Department of Transportation-approved containers, and ship the soil to a landfill legally permitted to accept the waste soil.[209] As chief of regulatory compliance, Ms. Kate Siftar was given the lead for the disposal action.[210]

In accordance with Army guidance, the disposal was contracted through Defense Reutilization Marketing Services (DRMS).[211] Emerald Services, Inc. was

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[205] Tab 9F-5
[206] Tab 10G, Gardner interview
[207] Tab 10G, Gardner interview
[208] Tab 10E-2, Deardorff
[209] Tab 10E-2
[210] Tab 10N-1, page 11
[211] Tab 10H, Grey interview, pages 9-12; Tab 17A, DRMS disposal services purchase request and modification

the contractor for the action.[212] Approximately 240 cubic yards (210 tons) of soil were packed into ten large containers[213]. Mr. Robert Grey and Mr. William Snyder of FWA Environmental prepared the Uniform Hazardous Waste Manifests. The manifest listed the waste as PCB contaminated soil. The 10 containers were shipped to the Lower 48.[214]

Mr. Grey doesn't recall any FWA Environmental personnel suggesting the need for addition tests of the soil. He understood that DRMS and the contractor were responsible for the waste characterization, and that Emerald would accomplish the required waste characterization. Mr. Grey explained that a waste profile sheet was prepared by Mr. Jerry Fox, who is employed by a USARAK waste services contractor. The profile sheet states that the waste soil is restricted from land disposal. Mr. Grey explained that this restriction meant the soil can't be sent to a solid waste landfill.[215]

DRMS uses standard waste disposal Requirements Contracts. These contain a multitude of contract line item number (CLIN) covering a variety of services. A unit price is assessed for each service. Standard DRMS waste disposal contracts provide testing and characterization services as a 6400 series CLIN.[216] The contract for disposal of the Site 52 waste soil did not include a testing or waste characterization CLIN, and FWA was not charged for testing or waste characterization services.[217]

As originally manifested, the soil was destined for a disposal site in Idaho.[218] While offloading the containers in Washington for the second phase in the journey, Emerald noted that the documentation included a reference to the soil containing herbicides. Emerald, concerned that herbicides could affect proper disposal of the waste soil, sought clarification from FWA on the specific contents of the soil.[219] According to Mr. Herbert Guillory, DRMS Forward Support Operations West, the

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[212] Tab 17A DRMO disposal purchase order
[213] Tab 17E, Site 52 soil Waste Disposal Manifests
[214] Tab 17E, Site 52 manifests
[215] Tab 10H, Grey interview, pages 9-15
[216] Tab 20B, *DOD Hazardous Waste Generator's Guide to Contract Purchase Requests*
[217] Tab 17A, DRMO disposal services purchase request and subsequent modification
[218] Tab 17E
[219] Tab 17C, Oct 05 Garrison email traffic

Garrison provided analytical data showing that in addition to PCB, the soil contained low concentrations of solvent waste. Mr. Guillory stated that solvents in the soil required that it be sent to an alternate landfill, Chemical Waste Management of the Northwest, in Arlington, Oregon.[220] The total cost for the disposal was approximately $250,000. [221]

According to DRMS and FWA Environmental records, the only documents accompanying the waste soil were 10 DOT manifests (one for each container). While the manifests were corrected to reflect the change in disposal facility, no effort was made to amend the description of waste. In November 2005, the Garrison received 10 certificates from Chemical Waste Management certifying that the PCB soil had been landfilled in accordance with 40 CFR § 271.[222] [Note: Section 271 deals only with management and disposal of PCB waste. Section 271 is not applicable to management and disposal of RCRA waste materials.]

As part of an initial review of how to manage the investigation and cleanup of PCB waste at Taku, Mr. Robert Brock, COE Environmental Project Manager, and Ms. Fosbrook prepared an estimate for disposing the Site 52 soil. Based upon their review of an Elmendorf AFB disposal of contaminated soil similar to that removed from Taku Site 52, Mr. Brock and Ms. Fosbrook estimated it would cost about $1,000,000 to properly landfill the Site 52 soil. This estimate reflected costs associated with the additional testing needed to meet EPA hazardous waste characterization procedures and additional actions required to prepare the soil for shipment.[223]

According to Mr. Brock, the initial tests of the Site 52 soil pile identified moderate amounts of RCRA regulated hazardous constituents. Mr. Brock stated that these initial tests were not sufficient to properly determine concentration levels of other hazardous constituents. He was also surprised that FWA undertook the

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[220] Tab 17D, Guillory Email. The landfill is operated by Waste Management Northwest. According to the company's website, it operates both a PCB waste disposal landfill and a RCRA waste disposal landfill.
[221] Tab 17A
[222] Tab 17E; Tab 17D, email from Mr. Gardner
[223] Tab 10C, Brock interview page 3; Tab 10F

disposal action without first accomplishing a waste characterization in line with EPA guidance.[224]

B. Controlling Authority

1. PCB Response. 40 CFR § 761.125(c)(1) (ii) The responsible party shall effectively cordon off or otherwise delineate and restrict an area encompassing any visible traces plus a 3-foot buffer and place clearly visible signs advising persons to avoid the area to minimize the spread of contamination as well as the potential for human exposure.

2. PCB Disposal. 40 CFR Part 761. Only limitation to the disposal of pre-1978 PCB waste and contaminated media (soil), is that PCB concentrations greater than 50 ppm may not be disposed in a solid waste landfill. PCB wastes greater than 50 ppm must be disposed in either a regulated PCB or RCRA waste landfill.

3. Reprisal Rule. 5 USC § 2302 – The detail or reassignment, or any other significant change in duties, responsibilities or working conditions of a federal employee, taken because of any disclosure of information which the employee reasonably believes evidences a violation of any law, rule, regulation, or a substantial and specific danger to public health or safety is a Prohibited Personnel Practice. Federal employees who have the authority to take, direct others to take or recommend a Prohibited Personnel Practice are liable for sanctions under federal law.

4. Hazardous Waste Manifest System. 40 CFR Part 262, Subpart B; 49 CFR Parts 171-172. Shipments of hazardous materials and hazardous waste must be accompanied with a manifest accurately identifying the hazardous materials and/or waste.

5. Land Disposal Restrictions. 40 CFR Part 268 – Prohibits land disposal of hazardous waste unless treated to federal standards.

6. RCRA Mixture Rule. 40 CFR § 261.3(a)(2) A mixture of a RCRA Listed Hazardous Waste and soil is regulated as a RCRA Listed Waste, regardless of the concentration of the RCRA Listed Constituent.

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[224] Tab 10C, Brock interview page 3

C. Analysis

1. Initial Response Actions

The record shows it took five days for FWA Environmental personnel to visit Site 52. COE contract administers maintain they notified FWA Environmental of the suspected contamination on 24 June 2005, but there's no record that COE personnel made any effort to ascertain the reason for the Garrison's delay. The response timeline suggests an overly casual attitude to possible site contamination, similar to that exhibited when drums and containers were discovered on Taku.

The record is silent as to why S & W didn't use PCB field screening kits when contamination was initially suspected at Site 52. Watterson and S&W were on notice of possible PCB contamination, and the contractor's Field Screening Sampling Plan called for using special field kits to identify possible PCB waste.[225] In as PCB is odorless, it's possible that the strong "mothball" smell from the excavated site misled S&W personnel. Still, they were on notice of possible PCB contamination on the site, and should have field tested for PCBs. An early detection would have alerted the contractor, COE and the FWA Garrison of the nature of the contamination and have convinced all of the need for better site control measures.

Efforts to safeguard Site 52 to ensure against worker exposure and to prevent contamination from being spread throughout the site were grossly inadequate. Federal regulations covering the management of PCB spills require suspected spill sites to be cordoned off sufficient to ensure against entry, and for warning signs to be conspicuously posted around the area of contamination. While these regulations are specific to PCB, they are essentially good management practice for any area where an unknown contaminant is discovered. Based upon the fact that the area was a military landfill, the chemical contamination at Site 52 could have been anything, and many substances historically used on military installations represent a more immediate health risk than does PCB exposure.

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[225] Tab11A, S&W Field screening plan, page 6,stating that S&W personnel will use Hach test kits to field screen for possible PCBs.

The failure to impose reasonable efforts to safeguard identified contamination was the main cause for PCB waste to be scattered throughout the site. It's difficult to understand how Watterson, COE and FWA Environmental personnel thought that simply surrounding the excavation area with plastic warning tape and placing colored flags on the dirt pile would be sufficient to keep people out of the area. A review of S&W's photos shows plastic warning tape encircling holes, trenches and dirt piles throughout the entire project site. [226]

2. Mismanagement of Initial Investigation

As with the efforts to identify the possible contaminant at Site 52, the initial investigation to determine the scope of original contamination, and the investigation to determine the extent that workers had spread the contamination through the Taku site, was slow and disorganized. The record shows that nearly a month after confirming PCB contamination, Garrison and Environmental personnel were still debating on the best course for what should have been an immediate investigation.

The record also shows either confusion or disagreement among the senior Garrison staff on the appropriate course of action. Mr. Meeks and Mr. Lucht appear to have misunderstood Colonel Boltz's decision about the size of the restricted area, and procedures and safeguards that would be employed during the investigation.

It appears that Mr. Boone used the 27 Aug 05 meeting with regulators to vent his displeasure with Garrison leaders. Based upon his representations to the EPA, it appears Mr. Boone may have attempted to capitalize on Mr. Lucht's and Mr. Meek's misunderstandings, and use these to misrepresent the Garrison's intentions to regulators. His statement to regulators, that the Garrison wasn't concerned with the potential hazard and would not restrict construction in contaminated areas, was inaccurate and clearly intended to discredit Garrison officials.

The timing of the disciplinary action -- following a disclosure to environmental regulators -- attaches a specter of retaliation to the event. Under federal law a supervisor may not discipline an employee or take a prohibited personnel action in retaliation for disclosing to regulators a violation of law, gross mismanagement,

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[226] Tab 11C-2, photos showing multiple areas encircled with tape and orange plastic fencing

gross waste of funds, abuse of authority, or information of a specific danger to public health or safety.[227]

Even if Mr. Boone's statements and representations to EPA and State regulators been true, they were not protected disclosures. Had the Garrison chose to limit the restricted area to only the immediate area of Site 52, that decision would not have been a violation of any regulation. As the entity responsible for investigation and cleanup of contamination, USAG-AK has considerable discretion as to how it undertakes such action. While limiting the restricted area to Site 52 may not have been the wiser choice, had the Garrison chose to do so, such decision would not have represented gross mismanagement, waste of funds or abuse of authority. Because most of the PCB contamination was still at Site 52, limiting the restricted area to only Site 52 would not have represented a specific public hazard.

3. Site 52 Waste Disposal

This continuum of mistakes in managing the contamination unearthed at Site 52 culminated with an improper disposal of the contaminated soil piles. The improper disposal violated multiple federal regulations, carrying serious legal consequences.

Mr. Robert Grey, USAG-AK Hazardous Waste Program Manager, maintains that because the soil was contaminated with PCB, the Garrison only needed to conform to federal PCB disposal regulations.[228] Unfortunately, results from the second set of laboratory tests show that in addition to PCB contamination, the Site 52 soil contained moderate concentrations of chemicals used in industrial processes. The waste chemicals detected in the soil fall within a class considered "RCRA Listed Waste." For this reason, management of the soil removed from Site 52 must conform to regulations governing the disposal of PCB waste and RCRA waste.[229]

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[227] 5 USC § 2302
[228] Tab 10H
[229] Tab 16B, Hazardous constituents include MEK @52 mg/kg; 1,2-dichlorobenzen (aka ortho-dichlorobenzene, o-dichlorobenzene) @43 mg/kg and toluene @54.6 mg/kg.

RCRA Listed wastes are a specific class of waste compounds disposed of in either pure manufactured form[230] or portions of spent compounds used in an industrial process,[231] such as a solvent used to clean equipment or the insides of power transformers. Federal law imposes very strict requirements for the management of these compounds. In addition, the RCRA "mixture rule" regulates any soil or other media contaminated with a Listed Waste as Listed Waste.[232]

Federal law prohibits land disposal (i.e. at a landfill) of soil contaminated with a RCRA Listed constituent unless the concentration of the listed constituent is at or below concentrations set by federal regulation.[233] Soil with chemical waste concentrations above these maximum levels must be treated prior to land disposal.[234] In addition to listed hazardous constituents, RCRA also regulates unlisted substances that exhibit hazardous characteristics, specifically, substances that are ignitable, corrosive, reactivity or toxicity.[235] As with other waste items, a generator must determine whether waste soil is hazardous prior to disposal.[236]

Based on the numbers and variety of containers and other materials unearthed at Taku, and the history of the site, the evidence reveals that military units used the site as a landfill for military material that was either not repairable or no longer needed.[237] This creates a rebutable presumption that hazardous constituents found at Site 52 were thrown away in either their pure form or as spent industrial compounds. Unable to rebut this presumption, theses hazardous constituents must be considered RCRA Listed Hazardous Waste. As a consequence of the RCRA mixture rule, all Site 52 soil having some amount of Listed Hazardous Waste must also be managed as Listed Hazardous Waste.[238]

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[230] 40 CFR Part 261, Appendix VIII, MEK is U159 listed waste; toluene is a U220 listed waste; 1,2 diclorobenzen is a U070 waste
[231] 40 CFR § 261.31 "F" listed wastes. Spent 0rtho-dichlorobenzene is an F002 waste; MEK and toluene are F005 listed wastes.
[232] 40 CFR § 261.3(a)(2)
[233] 40 CFR Part 268
[234] 40 CFR § 268, Subpart D
[235] 40 CFR § 261 Subpart C
[236] 40 CFR § 268.7
[237] Tab 14, PSE draft findings
[238] 40 CFR § 261.3(a)(2)

Management and disposal of PCB contaminated soil is regulated under the Toxic Substance Control Act (TSCA), with rules and procedures significantly different than those of RCRA.[239] As a consequence of legislative compromise, any soil mixed with PCB that was originally disposed prior to 1978 is pretty much unregulated.[240] One of the few regulatory requirements is that excavated soil having PCB concentrations greater that 50 parts per million must be sent to a designated PCB landfill. [241]

Because there are separate regulations governing management of RCRA and PCB waste, disposal of the soil has to conform to both regulations, with RCRA imposing a significantly greater burden.[242] This means that while there's no requirement to treat the Site 52 PCB waste soil prior to disposal, the presence of RCRA Listed constituents meant that the soil could only be sent to a landfill if the hazardous constituents in the soil were at or below the limits set by federal Land Disposal Restrictions (LDR). In addition, PCB/RCRA soil mixtures meeting LDRs must be disposed in a RCRA-permitted landfill.[243]

Mr. Grey apparently doesn't understand RCRA LDR requirements. In his interview, he understood that land disposal restrictions simply meant that the contaminated soil had to be disposed at a special landfill and not a standard solid waste landfill, such as that on FWA. Mr. Grey is apparently unfamiliar with RCRA waste soil pretreatment obligations prior to disposal at a special RCRA landfill, which would explain why he was apparently unconcerned about whether the waste soil had been properly characterized.[244]

Another difference between PCB and RCRA waste disposal is that federal regulations require all shipments of RCRA contaminated soil to be accompanied with statements attesting that the soil meets LDR standards, or a statement that the soil

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[239] 40 CFR § Part 761
[240] 40 CFR § 761.50
[241] 40 CFR§ 761.50(b)(3)
[242] Tab 5C, 65 FR 81373 (26 Dec 2000)
[243] Tab 5C, 65 FR 81373, 81376
[244] Tab 10H, Grey interview pages 9-15

requires treatment prior to land disposal. Failure to make such a disclosure could result in criminal prosecution. [245]

Disposal of PCB and RCRA waste is recorded through a manifest system administered by the Department of Transportation. Manifests must identify the specific hazardous constituent in the waste mixture being sent for treatment or disposal. Where the waste soil contains various compounds, the manifest must identify those constituents with specific LDR requirements.[246] The manifest identifies the generator of the waste, waste transporter, (if any) waste treatment facility, and the disposal facility. The generator must retain a copy of the manifests showing the full chain of custody of the waste material. Under EPA regulations, generators are obligated to report any problems or violations incurred during the disposal process.[247]

As stated above, FWA Environmental PCB soil disposal efforts violated several RCRA regulations. The first of these is the failure to take necessary steps to accurately characterize the waste soil. EPA procedures call for a statistical analysis of the waste soil to determine hazardous constituent concentrations. According to Mr. Seibel and Mr. Robert Grey,[248] FWA Environmental personnel didn't accomplish a statistical analysis but instead relied upon results from the second set of lab tests. This reliance was inappropriate. Because of the problems encountered with the first set of tests, only the second lab report covering 10 test samples had any validity. According to the record, the 10 samples from the second round of tests included samples obtained from the excavated hole. This means that less than ten samples were taken and tested from the soil piles at Site 52.[249] The soil was transported in 10 containers, each with its own hazardous material manifest. Each of these represents a separate disposal action. With less than ten samples taken of the transported soil, the Garrison can't legitimately say that it properly characterized the chemical makeup of the soil in each of the 10 containers sufficient to certify that land disposal was legal.

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[245] 40 CFR § 268.7
[246] Tab 5B, EPA Office of Solid Waste and Emergency Response, 19 Aug 1987
[247] Tab 5E, EPA hazardous waste manifest guides
[248] Tab 10H
[249] Tab 16B, 22 July 05 test reports for Site 52

Even if the second sampling action had been a sufficient characterization of the waste stream, FWA Environmental personnel failed to provide the written notices federal law requires for any land disposal of RCRA waste. The limited lab report identified three RCRA Listed Wastes in the soil, albeit at concentrations at or below the alternative disposal limits for waste soil.[250] This means that while the Site 52 soil could be sent to a landfill, the soil was still RCRA waste. In that it was RCRA waste, FWA Environmental personnel were required to provide written certification to the disposal facility attesting that the soil had been properly tested and hazardous constituents were at or below LDR limits.[251]

Further inquiry is needed in this matter to determine whether any criminal violations occurred as a consequence of this disposal action.

V. Post PCB Discovery Site Environmental Investigation

A. Facts:

1. Taku Site Investigation

At the direction of Mr. Lucht, FRA DPW Director, Ms. Fosbrook replaced Mr. Boone as lead for the environmental investigation of the Taku site. According to Mr. Gardner, current Chief of Environmental Division, Ms. Fosbrook is the most experienced and knowledgeable individual within DPW on the procedural and substantive aspects of contaminated site investigation and cleanup.[252] Others routinely involved in the Taku investigative effort included Ms. Therese Deardorff (FRA), Ms. Kate Siftar (FWA), Mr. Seibel (FWA), and Mr. Brock (COE Alaska District).[253]

Early investigation efforts focused on determining to what extent work crews had spread the Site 52 PCB waste to other parts of Taku and to keep environmental

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[250] 40 CFR § 268.49(c), setting the alternative LDR at 10 times Universal Treatment Standards set by 40 CFR § 268.40

[251] 40 CFR § 268.7(a)(3)(i): "I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR part 268 subpart D. I believe that the information I submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment."

[252] Tab 10G, Gardner interview

[253] Tab 10G

regulators informed of the Army's progress.[254] As part of the initial investigation, Ms. Fosbrook and Ms. Deardorff reviewed the S&W field notes and photographs.[255] From these, Ms. Fosbrook began to suspect that contamination on Taku was not limited to the PCB waste unearthed at Site 52 but more likely widespread as a consequence of past military activities and burial of hazardous materials on the military compound that was once on Taku.[256]

In late 2005, Watterson provided EPA and ADEC copies of S&W field notes and photos. The regulators apparently were concerned that Watterson failed to report leaking drums uncovered at the construction site.[257] According to information provided to USAG-AK Environmental staff, the State was considering taking enforcement action against Watterson for their management of material excavated from Taku.[258] In addition to possible chemical waste, regulators apparently learned that munitions items may have been discovered on Taku during some point in the construction, and were concerned that additional munitions items may still be on the site.[259]

Alaska Garrison officials met with the regulators in January 2006. Mr. Gardner described the meeting as a "little summit" to ensure the regulators understood that the Army was committed to not occupying the housing units until completing its investigation and remediation of any hazardous substances that might be on Taku. Mr. Mike Geiryic, legal advisor for the DPW investigation team, was not included in the meeting.[260]

On 27 Jan 2006, Ms. Fosbrook and Ms. Deardorff met with Mr. Lucht, Mr. Meeks and Mr. Gardner.[261] Mr. Mike Geiryic was again not included. By this time, the housing project was more than half completed. The purpose for this meeting was to allow the Alaska Environmental investigation team to brief USAG-AK senior staff on the information obtained from Watterson, advise the leadership as to the

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[254] Tab 10F-1 & 2, Fosbrook interview
[255] Tab 10F-2, Fosbrook; Tab 10E-1 Deardorff
[256] Tab 10F-2, Fosbrook; Tab 10E-1 Deardorff
[257] Tab 13B-3 email
[258] Tab 13B-4 email
[259] Tab 13B-4 email
[260] Tab 10G, Gardner page 17
[261] Tab 10E-1, Deardorff pages 25-30; Tab 10E-2

extent of site contamination, and to discuss how to proceed with both the construction and the investigation.[262] Mr. Gardner recalls that all appeared to agree that at some point the FWA Garrison might have to suspend or stop the housing project, but stated that the meeting ended without reaching a consensus as to what that threshold might be.[263]

2. Garrison Environmental Division Workplace Climate

Mr. Boone's departure as head of USAG-AK Environmental didn't bring an end to the north-south personnel conflict.[264] Ms. Fosbrook advocated for a cautionary approach, suggesting the Garrison should suspend construction efforts until the Garrison had a better understand of the types and extent of contamination. She also recommended working with regulators following the procedures set forth in the Federal Facility Agreement.[265]

According to Mr. Lucht, Mr. Meeks disagreed with Ms. Fosbrook having the lead in the investigation, and believed the investigation should be run from FWA by he and FWA Environmental.[266] In addition, Mr. Meeks, Ms. Siftar and Mr. Seibel felt that Ms. Fosbrook's approach was overly cautious, requiring endless testing that would only serve to unnecessarily slow construction progress.[267] The FWA contingent pressed for allowing construction to continue and only restrict excavation if contamination were found. In messages to other members of the team, Mr. Seibel challenged Ms. Fosbrook's assessment of the likely extent of contamination on the Taku site, insisting that contamination was limited to that found at Site 52 and whatever contamination construction crews spread throughout the building site.[268]

According to Mr. Gardner and Ms. Fosbrook, Mr. Meeks complained about the regulators' interests in the munitions items, believing their interest was unfounded.[269] In messages to members of the investigation team, Mr. Meeks

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[262] Tab 10E-1, Deardorff pages 25-30; Tab 10G Gardner pages 18-20
[263] Tab 10G, pages 19-20
[264] Tabs 10G Gardner interview, and emails at Tabs 13B through 13C
[265] Tab 10F, pages 20-31
[266] Tab 10-O, page 11
[267] Tab 10G, pages 20-25; Tab 113B-1 email dated 11 Oct 05
[268] Tabs 13B-1 email; 13B-6 email; 13B-7 email
[269] Tabs 10F-2; 10G

insisted that Army EOD had certified that the munitions items found on Taku weren't anything of consequence, and that the EOD team had told FWA not to call them anymore about additional discoveries.[270]

At the beginning of March 2006, Ms. Fosbrook discovered the incident reports from the 2004 EOD response actions. According to Ms. Fosbrook, she presented the information to Mr. Lucht and Mr. Gardner. Ms. Fosbrook explained that the information was critical to a full understanding of the potential environmental and safety risks at Taku and recommended immediate release of the information to EPA and the state. According to Ms. Fosbrook, she was instructed to withhold the information until the Garrison had time to consider whether it was necessary to provide it to federal and state regulators.[271]

According to Ms. Kate Siftar, USAG-AK Environmental Chief of Regulatory Compliance, when Mr. Meeks learned of Ms. Fosbrook's intent to release the information, Mr. Meeks threatened to sue her.[272] Mr. Meeks confirms that he did state his intent to take legal action. According to Mr. Meeks, the information in the EOD reports was untrue and he believed that Ms. Fosbrook's reason for releasing it to the regulators was to discredit him.[273]

On 9 March 2006, in an email providing an update of investigation efforts to EPA and ADEC, Ms. Fosbrook informed the regulators that as part of the initial site clearance, UXO materials were found and blown in place.[274] On 10 Mar 2004, Mr. Lucht notified the USAG-AK commander of the 2004 EOD incident reports, and recommended seeking advice from Mr. Gieryic to determine the Army's liability should the information be released to federal and state regulators.[275] According to Mr. Gieryic, he advised USAG-AK officials that the EOD information must be immediately shared with regulators.[276]

Shortly after the EOD information was released to regulators, Mr. Lucht and Mr. Gardner decided to replace Ms. Fosbrook as lead in the Taku investigation

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[270] Tabs 13B-5 email
[271] Tab 10F-2, pages 40-41
[272] Tab 10N, Siftar page 2
[273] Tab 10L, Meeks pages 24-25
[274] Tab 13B-8 email
[275] Tab 10O-2; Tab 13C 3 Mar 06 email messages
[276] Tab 10-I

efforts. Mr. Gardner stated that the FWA Garrison insisted that her leadership was counterproductive to achieving progress in the environmental investigation and ensuring progress in the housing project. Mr. Gardner stated that Mr. Meeks thought Ms. Fosbrook was being too free with information provided to regulators, and that Mr. Meeks thought Ms. Fosbrook was trying to foster blame for the situation on him and the FWA Environmental staff.[277] Mr. Lucht stated that Mr. Meeks thought Ms. Fosbrook was exaggerating the munitions concern.[278] Mr. Lucht and Mr. Gardner stated that they concluded the stress of managing the cleanup operation was too much for Ms. Fosbrook. [279]They removed her as lead of the investigation team and requested she take leave. Upon returning from leave, Ms. Fosbrook assumed an advisory role to the investigation team.[280]

3. Continued Taku Investigation Efforts

Following Ms. Fosbrook's removal as lead, responsibilities for the investigation efforts were split between Ms. Deardorff and Mr. Seibel. According to Mr. Gardner, Ms. Deardorff's role was to coordinate Army efforts and serve as principal contact with regulators. Mr. Seibel was to manage the actual Taku investigation and on-site waste management activities. Mr. Gardner stated that while he understood Mr. Seibel had little experience with CERCLA investigations and procedures, he thought Mr. Seibel capable of the task. He understood that Ms. Deardorff did have a fair understanding of the process, and felt she could help Mr. Seibel. Mr. Gardner admits he has little experience with CERCLA cleanup procedures, but felt comfortable that the investigation team would be able to complete its tasks with Ms. Fosbrook serving as technical advisor.[281]

According to Mr. Gardner, Ms. Deardorff has much less experience with the CERCLA and IRP process than Ms. Fosbrook, adding that no other Army Alaska employee has Ms. Fosbrook's understanding of the environmental cleanup

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[277] Tab 10G, Gardner pages 21-24; Tab 10L, Meeks pages 24-25
[278] Tab 10-O, Lucht Interview, page 11
[279] Tab 10-O, page 20; Tab 10F-2, page 43-44
[280] Tab 10G, pages 21-24
[281] Tab 10G, pages 18-39

process.[282] Ms. Deardorff has less of a science background than does Ms. Fosbrook. Her experience has been in project management matters, such ensuring proper funds are obtained and expended and overseeing contractor efforts. Ms. Deardorff states that she generally looks to subject matter experts for specific remediation matters.[283]

By spring 2006 efforts were underway to complete a Preliminary Source Evaluation (PSE) as required by the FFA, with the purpose of ascertaining the full extent of possible contamination on Taku.[284] According to Mr. Lucht, no new foundations were being built on the site, and Watterson was allowed resume work on existing foundations.[285] According to Mr. Gardner, the Garrison hoped the PSE would prove that that it would be safe for families to live in the housing complex.[286]

Ms. Deardorff coordinated PSE efforts. In addition to Ms. Fosbrook, an Alaska District Corps team under the supervision of Mr. Brock provided technical assistance in the investigative efforts.[287] PSE field work consisted of gathering boring samples, installing wells to test groundwater, and exploratory trenching in areas which the 2004 COE geotechnical survey identified as having the larger concentrations of buried debris.[288] The COE PSE team employed the services of Oasis Environmental to help prepare the PSE report. COE and DPW obtained the services of North Wind, Inc. to do the actual field testing needed for the analysis.[289]

During March 2006, USAG-AK Environmental sent copies of the S&W photos and field notes to Huntsville COE for review by Army EOD experts. The EOD experts stated that there wasn't sufficient evidence to conclude an immediate unexploded ordinance risk existed on the site, but recommend that FWA acquire the services of a civilian EOD technician before allowing any excavation on Taku.[290] Records also show that federal and state regulators also insisted upon an on-scene

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[282] Tab 10G, page 25
[283] Tab 10E, pages 13-20
[284] Tab 10C, Brock interview
[285] Tab 10-O, Lucht pages 26-28
[286] Tab 10G, Gardner interview, page 45
[287] Tab 10C, Brock interview; Tab 10G Gardner interview
[288] Tab 8C, *Final Work Plan Addendum, Spring 2006*, North Wind, April 2006
[289] Tab 14 Draft PSE, Oct 2006
[290] Tab 13C-5 email

EOD expert. For these reasons, DPW Environmental directed North Wind to include a civilian EOD expert in its site investigation team.[291] Mr. Seibel challenged the need for an on-scene EOD expert.[292]

Shortly after North Wind began its work, their EOD expert identified a 20-pound fragmentation bomb in a debris pile next to a building. The bomb wasn't fused but did contain explosives.[293] Within two months North Wind found a significant amount of munitions waste items on the site. Most of the items found were expended munitions or components of expended munitions, but the North Wind EOD expert also found a number of munitions items containing either propellant or explosives. [294] The most troubling of these were canister devices designed to deliver napalm and chemical agent (i.e. mustard gas). While these proved empty of any chemicals, some still had sizable bursting charges.[295]

Site test excavations by North Wind uncovered caches of drums and other containers with POL, industrial solvents and super tropical bleach[296]. Preliminary analysis indicates that a large section of the northeast quadrant was used for military waste disposal.[297] Super tropical bleach (STB) has been used by the military to decontaminate chemical agents, such as mustard gas.[298]

The PSE analysis also notes that at one time a depression stretched though the center of Taku. This area was apparently used for drum and container disposal, and covered over with dirt once full.[299]

The span of chemical contamination on Taku tends to match the concentrations of buried material identified in the 2004 COE geotechnical survey. Soil samples show various levels of hazardous constituents.[300] Wells installed along

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[291] Tab 13C-3-5 emails; Tab 6G North Wind Report
[292] Tab 13C-6, 18 Apr 06 email
[293] Tab 6G North Wind EOD report
[294] Tab 6G NW report
[295] Tab 6G. One of the canister weapons unearthed on the site contained some unknown liquid. A chemical weapons specialty team from Aberdeen Proving Grounds was deployed to inspect weapon. After an extensive examination of the bomb, they were able to determine that the liquid was water.
[296] Tab 14, PSE pages v-vi
[297] Tab 14, PSE pages 3-13 to 3-18
[298] Tab 18A STB info sheet
[299] Tab 14, PSE 3-13 to 3-18
[300] Tab 14, PSE; Tab 20, PSE w/Appendix

the northern border of Taku show POL, solvents and RDX in shallow groundwater.[301] RDX is a compound used in military explosives.[302]

According to Mr. Brock, contamination on the site appears to be 1950s-era military waste. He noted that because installation potable wells are up gradient from Taku, there's little likelihood of contamination finding its way into the installation's water system. He did note that the shallow groundwater is moving northward in the general direction of the installation hospital. The presence of RDX suggests other live munitions items buried on the site – either loose explosive material or live ordinance from which explosives are leaching.[303]

Those who have reviewed the preliminary information believe site cleanup will be difficult. The greatest challenge is the need to eliminate munitions waste. Any piece of metal identified in the COE 2004 geotechnical survey has the potential to be a live munitions item. Mr. Wang, COE Contracting Officer, was told by EPA that the Army probably won't be able to occupy the housing units until all hazardous materials have been removed.[304] Mr. Brock adds that regulators will probably not concede that the risk to housing occupants is sufficiently eliminated until all buried metal is removed from the site. Additional cleanup could include removal of contaminated soil, chemical waste containers, groundwater treatment, and testing to ensure that hazardous vapor from underground contamination is not seeping into the houses. Mr. Brock believes that while site cleanup may take years to complete, the Army should be able to eventually occupy a substantial number the houses built.[305]

4. Disposal of Stockpiled Soil

To facilitate construction, in Sept 2006 the FWA Environmental office arranged for stockpiled contaminated soil to be moved off Taku. The stockpiled soil was that which S&W identified as having POL contamination based upon PID

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[301] Tab14 PSE report
[302] Tab 18B, RDX information sheet
[303] Tab 10J-2, CPT Guard stated that he recalled seeing loose propellant on the construction site when his EOD team responded to the discovery of munitions items
[304] Tab 10P-1
[305] Tab 10C, page 3

screening tests and a single laboratory analysis.[306] According to Mr. Seibel and Mr. Gardner, the soil was not tested for other possible hazardous constituents.[307]

About 1,000 tons of soil from Taku was sent to OIT, Inc. for thermal treatment. The OIT facility is licensed by the State to thermally treat soil to remove POL and organic contaminants.[308] After thermal treatment, OIT tested the soil for residual POL constituents.[309] The soil was returned to FWA where it was used as cover material at the FWA landfill.[310] Because of problems at the OIT facility, the rest of the Taku contaminated soil was carried to a vacant lot near the FWA DRMS facility for temporary storage.[311] The soil near the DRMS facility was placed on top of plastic liners and covered with plastic sheeting. None of the soil from the Taku site was tested prior to being moved off site for treatment or storage.[312]

As part of the PSE, North Wind gathered samples from the soil stored near the FWA DRMS facility, sending the samples to laboratory for analysis. Lab results show that in addition to POL related constituents, the Taku soil contains relatively high levels of heavy metals, DDT and strontium.[313] Laboratory reports don't state whether the strontium identified in the soil is the naturally occurring variant or one of twelve radioactive variants.[314]

Watterson was allowed to complete 110 of the originally planned 128 housing units. According to Mr. Lucht the decision to complete the units was based upon a need to close out the contract.[315] Mr. Meeks recalled discussions with COE contract personnel, and the consensus was that cancelling the contract would not save any money, as construction materials were either already on site or ordered.[316] Mr.

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[306] Tab 19C, SGS Laboratory results (14 June 05), showing results only for POL-range constituents
[307] Tab 19C
[308] Tab 19A Shipping documents
[309] Tab 19B, OIT treatment certifications
[310] Tab 19C, email response
[311] Tab 14 PSE
[312] Tab 19C
[313] Tab 20D, DRMS soil test results
[314] Tab 18C, EPA information sheet, Strontium
[315] Tab 10-O, Lucht pages 32-34
[316] Tab 10L-1, Meeks pages 29-33

Wang, Contracting Officer, reports that all funds allocated for the project have been spent.[317]

B. Controlling Authority

1. 40 CFR §265.13 General Waste Analysis. (a) Before an owner or operator treats, stores, or disposes of any hazardous wastes, or non-hazardous waste if applicable under Section 265.113(d), he must obtain a detailed chemical and physical analysis of a representative sample of the wastes. At a minimum, the analysis must contain all the information which must be known to treat, store, or dispose of the waste in accordance with this part and part 268 of this chapter.
2. Reprisal Rule. 5 USC § 2302 – The detail or reassignment, or any other significant change in duties, responsibilities or working conditions of a federal employee, taken because of any disclosure of information which the employee reasonably believes evidences a violation of any law, rule, regulation, or a substantial and specific danger to public health or safety is a Prohibited Personnel Practice. Federal employees who have the authority to take, direct others to take or recommend a Prohibited Personnel Practice are liable for sanctions under federal law.
3. The FFA obligates FWA to perform site evaluations whenever potential contamination is discovered.

C. Analysis of the Facts

1. Mismanagement of Investigation

The events following the discovery of contamination at Site 52 and Mr. Boone's departure as chief of USAG-AK Environmental reveals USAG-AK Environmental to be a dysfunctional organization. Information uncovered about the type and extent of contamination on Taku, shows that the area is a serious health risk not only for anyone allowed to live in the new housing units, but also a potential serious risk to those already living and working in the immediate area. Despite mounting evidence of the serious threats to health and safety existing on the site,

[317] Tab 10P-3

DPW leaders pressed forward with the construction project, apparently believing that their mission was to simply finish construction and close out the contract – with little consideration given to whether anyone would be able to actually occupy the housing units. The current situation can be attributed to FRA and FWA DPW leadership's apparent lack of any substantive understanding of the rules and procedures governing the management and investigation of suspected contaminated sites.

The personnel conflicts that likely still exists within USAG-AK Environmental, and to some part FWA DPW, played heavily in the current situation. One faction of the Taku site investigation team, lead by Ms. Fosbrook, advocated a conservative approach for the Taku investigation and a close working relationship with environmental regulators. The other faction, lead by Mr. Meeks, pressed to limit investigation and site remediation to only that deemed necessary to facilitate construction. Events indicate that Meeks and some FWA Environmental personnel were also hostile to an open relationship with the regulators. The record shows that the eventual course of action was, at least initially, an ineffective hybrid of both options.

The three-party Federal Facility Agreement required the Garrison to follow CERCLA hazardous substance response and investigation procedures at the point where a reasonable person would have suspected that Taku was contaminated.[318] In light of the history of buried drums on FWA, that point was reached when drums were unearthed as early as April 2005, and likely passed when exceptionally high concentrations of PCB waste was confirmed in August 2005. The PSE process wasn't started until a substantial amount of the construction project was already completed, which events will likely show was too late.

It is clear that Mr. Lucht, Mr. Meeks and Mr. Gardner don't understand the CERCLA process, otherwise they would have immediately recognized the fallacy of attempting a CERCLA investigation while continuing construction. An essential element of the CERCLA process is an accurate understanding of both the nature of a potential environmental threat and the probability of injury or harm resulting from exposure to the threat.

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[318] Tab 2A, Attachment 1

The goal of any CERCLA investigation is a risk analysis, which is based upon an assessment of the severity of harm from a probable exposure and the likely frequency of such an exposure. Important considerations are types of contaminants and the means in which humans can be exposed to such contaminants. Another critical consideration is the age of those potentially exposed, with children universally accepted as having greatest risk of harm from exposure to pollutants. When children inhabit (or will inhabit) an area, EPA risk assessments usually require an assumption that children will eat dirt and any other media in the environment.[319]

In a situation where activities are rapidly changing physical conditions of a potentially contaminated area (such as at a construction site) it's very difficult to make any credible determination of the extent of the potential threat and the likely pathway for exposure. As a consequence of her greater experience and understanding of the CERCLA process, it appears Ms. Fosbrook understood this and pressed hard to convince the DPW leadership of the need to move slowly and deliberately. Probable due to their lack of understanding of the CERCLA process, it appears that Mr. Gardner, Mr. Meeks and Mr. Lucht viewed Ms. Fosbrook's more deliberate approach as inefficiency. The fact that Mr. Lucht and Mr. Gardner were sympathetic to Mr. Meeks' protests over disclosing the EOD reports to regulators, also demonstrates lack of knowledge of the governing procedures and rules which require candor whenever conducting an environmental site investigation on an NPL facility.

If, as Mr. Gardner stated, Ms. Fosbrook appeared stressed in March 2006, this is probably due to the considerable hostility she was receiving from FWA personnel and leadership as a consequence of her advocating that the site investigation be done in strict compliance with the law and the FFA. In addition, it appears that Ms. Fosbrook was quite concerned that withholding the EOD reports from the regulators could subject her to criminal sanctions.

In a misguided attempt to reach a compromise, Mr. Lucht and Mr. Gardner relieved Ms. Fosbrook as team leader for the investigation efforts. Having replaced

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[319] See EPA Guidance on Children's Health Protection: http://yosemite.epa.gov/ochp/ochpweb.nsf/content/Whatwe_scientif.htm

the one person in the Garrison having real substantive experience and understanding of the CERCLA process, DPW split team leadership responsibility between Ms. Deardorff and Mr. Seibel.

While Ms. Deardorff has some understanding and experience of CERCLA or IRP investigations and cleanups, her past experience has generally focused on project coordination and fund management aspects of the process. She has little experience with site analysis and risk assessment, and little experience with or knowledge of federal regulations dictating how hazardous wastes and materials must be managed.

Mr. Seibel's experience is primarily in the area of construction contract oversight, to include ensuring that contractors have the required permits and to ensure proper on-site management of hazardous materials. Mr. Seibel's past experience with site investigation and remediation is mainly with the removal, treatment and disposal of POL-contaminated soil. [320] POL waste remediation is regulated by State law, which is much less complicated than RCRA and CERCLA regulations.[321]

Two events on Taku aptly demonstrate Ms. Deardorff's and Mr. Seibel's limited understanding of federal rules governing hazardous waste management: the removal and disposal of Site 52 soil in 2005, and the removal and thermal treatment of Taku contaminated soil in 2006.

As stated above, FWA Environmental personnel failed to follow federal regulations with transporting and disposing of the waste soil from Site 52. Although Ms. Deardorff didn't have direct responsibility for the disposal, she did know how the soil would be disposed, and was aware of the problems that occurred during the shipment.[322] As a senior member of the Taku investigation team she should have been able to spot these violations and advised the Alaska Garrison leadership on a means to resolve the problem but failed to do so.

2. OIT Soil Treatment

[320] Tab 10G, Gardner interview pages 12-13
[321] See state regulations 18 AAC Chapter 75 for a comparison to RCRA procedures.
[322] Tab 17C

The waste soil sent to OIT was part of the much larger stockpile removed from Taku. Laboratory tests of the remaining portion, now stored near the DRMS facility, show the waste to have sufficient concentrations of heavy metals and DDT to be of real concern. The probability is that the soil sent to OIT contained similar concentrations of hazardous constituents. Tests performed by OIT at the end of the treatment process focused only on POL constituents. It's unlikely that the OIT soil baking process was hot enough to remove the hazardous constituents. Apparently Mr. Seibel did not appreciate the limitations of hand-held PID units, otherwise he might have recognized the need to take additional efforts to characterize the soil before sending it to OIT for treatment.

Mr. Seibel's mismanagement of the soil sent to OIT represents four violations of RCRA. First, he failed to properly characterize the soil before sending it to the waste facility. Second, unless he had proof that the waste wasn't hazardous, federal regulations required the waste soil shipped to OIT had to be manifested in accordance with strict DOT and EPA requirements. Third, Mr. Seibel failed to provide the treatment facility the requisite certification that the waste may be treated in a combustion facility. Fourth, while the soil had been treated and tested for residual POL constituents, Mr. Seibel failed to properly test the soil to determine that any residual RCRA hazardous constituents met LDR standards prior to sending the soil to the FWA landfill. In that Mr. Seibel was aware that the soil was contaminated, and was aware of the various types of material being unearthed on the construction site, his conduct probably constitutes criminal violations of federal regulations.

3. Reprisal

Removing Ms. Fosbrook as lead for the Taku environmental investigation constitutes an illegal act of reprisal by management. Under the Federal Merit Systems Protection Act, a supervisor may not take an adverse action in response to an employee providing information about a possible violation of federal law or for providing information of a substantial and specific danger to public health or

safety.[323] The disclosure need only be a contributing factor in management's actions to constitute a violation of federal law.[324] Apparently over the objections of Mr. Lucht and Mr. Meeks, Ms Fosbrook informed federal and state regulators of the 2004 EOD events and records of the response actions. Ms. Fosbrook stated that she understood Mr. Lucht and Mr. Gardner removed her as lead of the investigation team because she had released this information to federal and state regulators. She also stated that she felt compelled to release the information so that she wasn't personally violating federal law.

Included in the 2004 reports that Ms. Fosbrook discovered were Captain Guard's strong recommendation of the need to have an EOD specialist on site during construction due to the potential for additional munitions items being unearthed on Taku, and Mr. Meeks flippant remarks about bulldozers impacting live artillery shells. Although this information likely embarrassed Mr. Meeks, it was valuable to the environmental investigation effort. Information contained in the EOD reports ensured a more accurate understanding of the type and extent of possible munitions hazards on Taku. The reports also offered expert recommendations on the need to evaluate the site to determine the extent of the potential threat, and the need for an on-site munitions expert to ensure safety. From a regulatory oversight perspective, the EOD reports represented information that should have been disclosed to EPA and the State much earlier but wasn't.

At the time of Ms. Fosbrook's reassignment, Mr. Gardner was her immediate supervisor. Mr. Gardner in turn reported directly to Mr. Lucht, Director of FRA DPW. According to Mr. Lucht and Mr. Gardner, her removal or reassignment was their mutual decision. Mr. Gardner stated that the decision to remove or reassign Ms. Fosbrook was in large part due to friction caused by Mr. Meeks' perception that Ms. Fosbrook was being too candid with regulators, and that she was attempting to foster blame on Mr. Meeks and others at FWA. Mr. Gardner felt that replacing Ms. Fosbrook would serve to reduce the north-south tension.

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[323] Tab 5E & F; 5 USC § 2302. Prohibits a supervisor from taking action with respect to any employee because of any disclosure of information by the employee concerning a violation of any law or regulation, the abuse of authority, or a substantial and specific danger to public health or safety. Prohibited actions include a significant change in duties responsibilities or working conditions.
[324] Tab 5F, *Heckman v. DOI*, 2006 MSPB LEXIS 5009

If, as Mr. Gardner stated, FWA DPW personnel thought Ms. Fosbrook was overly generous with information, and that her motive was to foster blame on FWA DPW personnel for the Taku situation, the proper course would have been to seek legal advice from Mr. Gieryic, legal counsel for the team. Had he done so, Mr. Gieryic would have likely advised Mr. Gardner that federal law and the FWA Facility Agreement required the Army to be candid with regulators. If Mr. Meeks or anyone else considered the 2004 EOD reports -- or anything else Ms. Fosbrook provided to regulators -- to be inaccurate accounts of events, the proper course was to correct the record by submitting a memorandum setting forth that person's account of events, and not force Ms. Fosbrook to withhold the information in violation of federal law.

Mr. Lucht and Mr. Gardner claim that another reason for reassigning Ms. Fosbrook was their concern that she was overly stressed by events. It appears that neither individual considered that the possible reason for Ms. Fosbrook's apparent stress was likely due to her appreciation that withholding the EOD reports was an illegal act, possibly subjecting her to civil and criminal liability. If Mr. Lucht and Mr. Gardner were concerned with her health, the appropriate course would have been to direct her to seek medical attention, or allow her to take leave and return to her duties of overseeing the site investigation.

A third reason Mr. Gardner cites for relieving Ms. Fosbrook is that Mr. Meeks and others at FWA complained that she was taking too long to develop sampling plans and other actions associated with the Taku investigation, which in turn was unnecessarily delaying construction. Mr. Meeks' apparent impatience and Mr. Gardner's apparent acquiescence are a result of unreasonable expectations, attributable to not understanding the CERCLA process. The procedures set by federal law and the FWA Facility Agreement are purposely exacting and slow. The federal process is designed to force a thorough examination of the situation to ensure all facts are gathered and analyzed before undertaking what are often expensive response actions. Bypassing these procedures generally results in an ill conceived plan such as that of continuing construction on land suspected of having dangerous waste.

Regardless of whether Mr. Gardner and Mr. Lucht thought they were doing the right thing by reassigning Ms. Fosbrook, as the immediate and subsequent supervisors, their actions violated federal law. The record supports Ms. Fosbrook's perception that she was being punished for doing something that the law compelled.

According to Mr. Gardner, Mr. Meeks insisted upon Ms. Fosbrook being replaced. This also violated Merit Systems Principals. Federal law extends liability to those who are in a position to recommend retaliatory action.[325] In as much as Mr. Meeks is a senior Alaska Garrison official and a principal client of USAG-AK Environmental, it would have been difficult for Mr. Gardner to ignore Mr. Meeks' insistence that Ms. Fosbrook be replaced.

4. Wasted Resources

Mr. Lucht's and Mr. Meeks' insistence to finish the 110 housing units will likely result in significant waste for the Army. There's real uncertainty as to whether environmental conditions will allow any of the 110 units to be occupied. Some of the units may have to be removed or demolished. At the least, it will be many years before environmental regulators will agree to occupancy.

Until the Army has a complete understanding of the nature and scope of contamination on Taku, it's not possible to accurately predict what waste removal and remediation measures will be needed to make the area habitable. Most likely, federal and state regulators will insist on the removal of all buried metal (each piece represents a potential munitions item) and all contaminated soil. It might be possible to accomplish this without damaging buildings, foundations and the utility system, but unlikely. In addition, the Army isn't certain whether there's contamination under or immediately next to the structures. Records show that Watterson only removed that amount of buried waste and contaminated soil contained in the material actually excavated for foundation and utility work. Photos show drums and other unknown material buried in the sides of excavated areas.[326]

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[325] 5 USC §2302 (b)(8)

[326] Tabs 11C and 20B, S&W photos showing metal debris in the walls of excavated foundation sites.

Records indicate that in 2005 three individuals were overcome by fumes rising from an excavated area on Taku. In 2006 four to twenty individuals (depending on accounts) were made ill by fumes encountered at the Hangar 6 construction site. Mr. Bill Snyder, the first from DPW Environmental to visit Site 52, was also one of the first to investigate Hangar 6. He recalls that the excavated ground at Site 52 smelled the same as the excavated ground at Hangar 6.[327] In light of the unresolved cause of illnesses at the Taku and Hangar 6 sites, environmental regulators will likely require the Army to test air within the housing units to ensure no hazardous chemicals are seeping from underground and into the structures. Fumes from adhesives, paints and new carpeting can give false positive readings of air contaminants, preventing the clean readings needed for habitability. If this occurs, the Army will need to either wait until paint and carpet fumes subside, or remove everything from inside the structures to obtain accurate readings.

VI. Misleading Information

A. Facts

Apparently on learning of that munitions components had been discovered on the Taku site, Maj Gen Brown requested that the FWA Garrison Commander provide an explanation of the situation. In an 8 Apr 2004 email sent to Maj Gen John M. Brown III and Col Boltz, LTC Brown stated that "(t)he 716th Co CDR was on site today and I met with him, the FWA PM and Mr. Meeks. A risk assessment has been done and none of us believe that were are or are likely to encounter live HE rds *(sic)*."[328]

On 9 Mar 2005, at a Senior Executive Review Group briefing to senior Corps of Engineers, IMA (now IMCOM) and US Army Alaska officials, Meeks provided a short overview of the Taku housing project. According to Mr. Lucht, those attending the meeting were told that some scrap metal was buried on the site, that some training UXO was found on the site, and that some PCBs had been detected.

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[327] Tab 10R

[328] Tab 10L-4. This is a copy of the original email from LTC Brown to Maj Gen Brown on the Taku munitions issue. Mr. Meeks forwarded the email to Col Donna Boltz (USAG-AK Commander) on 3 March 2006.