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August 18, 2005

SHAW-MC-CK05-0858
Project No. 774645

Mr. Lee Coker
U.S. Army Corps of Engineers, Mobile District
Attn: EN-GE/Lee Coker
109 St. Joseph Street
Mobile, Alabama 36602

Contract: **DACA21-96-D-0018, Task Order CK05**
Fort McClellan, Alabama

Subject: **Final Decision Document for the Former Decontamination Complex Parcels 93(7), 46(7), 70(7), and 140(7)**

Dear Mr. Coker:

Enclosed is one copy of the subject document for your records. A PDF version of this document is also provided on compact disc. The final SI report was issued in December 2003. ADEM concurred with the conclusions and recommendations of the final SI report as documented in the attached letter dated April 5, 2005. Also attached is the Army's response to EPA comments on the final report.

At your request, I have distributed copies of this submittal as indicated below. If you have questions, or need further information, please contact me at (865) 694-7361.

Sincerely,

Stephen G. Moran

Stephen G. Moran, P.G.
Project Manager

Attachments

Distribution: **Lisa Holstein, FTMC (7 copies; 2 CDs)**
Shana Decker, ADEM (2 copies, 1 CD)
Doyle Brittain, EPA Region 4 (1 copy; 1 CD)
Mike Kelly, AEC (1 copy)
Scott Weber, AEC (1 copy)
Fran Coulters, NGB (1 copy)
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ADEM

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April 5, 2005

Ronald M. Levy
BRAC Environmental Coordinator
Environmental Office, 291 Jimmy Parks Blvd.
US Army Garrison
Fort McClellan, Alabama 36205

RE: **ADEM Review and Notice of Concurrence:** *Final Site Investigation Report, Former Decontamination Complex, Parcels 93(7), 46(7), 70(7), and 140(7),* dated December 18, 2003
Fort McClellan, Calhoun County, Alabama
Facility ID No. AL4 210 020 562

Dear Mr. Levy:

The Alabama Department of Environmental Management (ADEM or the Department) has reviewed Fort McClellan's submittal of the subject *Final Site Investigation Report.*

The Former Decontamination Complex is located on the corner of Freemont Road and Trench Hill Road. It covers approximately four acres. Fort McClellan's investigation of the complex consisted of a geophysical survey and collection/analysis of 27 surface soil samples, 5 depositional soil samples, 26 subsurface soil samples, 6 surface water samples, and 6 sediment samples. Fort McClellan's hydrogeological investigation of the site included the installation of 21 groundwater monitoring wells (9 temporary, 9 permanent residuum monitoring, and 3 permanent bedrock wells).

In its geophysical survey, Fort McClellan identified one anomaly at Parcel 140(7). The geophysical anomaly was initially interpreted by Fort McClellan to be an underground storage tank (UST). However, Fort McClellan could not locate a UST during its exploratory excavation and trenching. Fort McClellan stated that the anomaly was caused by reinforced concrete, piping, debris, and/or back fill from previous tank removal activities.

Fort McClellan screened surface and subsurface soil, groundwater and surface water sample analytical data against residential site-specific screening levels (SSSLs) to evaluate the site for unrestricted reuse. Chemicals of potential concern (COPCs) were identified to include several metals (aluminum, antimony, chromium, iron, manganese), arsenic, polynuclear aromatic hydrocarbons (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, dibenz[a,h]anthracene, indeno[1,2,3-cd]pyrene) in surface soil. Several metals, volatile organic compounds (acetone, vinyl chloride, 1,1,2,2-tetrachloroethane), and one explosive-related constituent (2,6-di-nitrotoluene) were selected as COPCs in groundwater.

Each sample was analyzed for the full list of 23 target analyte list metals. Fort McClellan based its geochemical evaluation on the natural association of certain target metals or trace elements with distinct ubiquitous metal constituents in soil or sediment. The effects of reductive dissolution and suspended particulates were reportedly considered during Fort McClellan's evaluation of groundwater and surface water

analytical data. Fort McClellan's analysis of the geochemical data concludes that except for acetone in groundwater, the COPCs present were naturally occurring or were not related to any historical Army activity, and were determined not to pose a threat to human health.

Fort McClellan only retained one COPC (acetone) for further review. Acetone was detected in groundwater samples collected from five monitoring wells located in the southern portion of Parcel 93(7). The wells contained acetone concentrations exceeding the site-specific screening level (SSSL = 0.156 mg/L). Acetone levels in these wells ranged from 0.75 mg/L to 5.70 mg/L. The source of acetone contamination reportedly remains unknown. Fort McClellan states that further investigation is needed to fully address the southern portion of Parcel 93(7) located south of Trench Hill Road. The Army has recommended an additional investigation to determine the source of acetone in groundwater. Acetone contamination was not present in monitoring wells located north of Trench Hill Road.

The Department concurs with Fort McClellan's recommendation of "No Further Action" and unrestricted land reuse for the portion of Parcel 93(7) located north of Trench Hill Road [including Parcel 140(7)]. According to the Army, the area north of Trench Hill Road [including Parcel 140(7)] will be transferred to the Joint Powers Authority. The Department requests that the Army submit a map delineating the northern and southern portions of this parcel. Upon transfer of this property, the JPA will be required to update the cleanup agreement to reflect the status of the property.

The Department also concurs with the recommendation to further investigate the portion of Parcel 93(7) south of Trench Hill Road to determine the source of acetone in the groundwater at the Former Decontamination Complex. According to the Army, this portion of Parcel 93(7) [including Parcels 46(7) and 70(7)] will be transferred to the National Guard Bureau (NGB). The entire portion of Parcel 93(7) south of Trench Hill Road is fenced and is reportedly projected for continued use as a military training area by the NGB.

If you have any questions or concerns regarding this matter please contact either Mr. Frederick Rudolph of the Governmental Hazardous Waste Branch at 334-270-5687 or via email at frudolph@adem.state.al.us.

Sincerely,

Stephen A. Cobb, Chief
Governmental Hazardous Waste Branch
Land Division

SAC/FLR/mal

cc: Mr. Doyle Brittain/EPA Region 4
Mr. Dan Cleckler/JPA
Ms. Shana Decker/ADEM
Mr. Jim Grassiano/ADEM

File: Land Division/Governmental HW/Fort McClellan/Correspondence/2005

Response to U.S. Environmental Protection Agency Comments
Final Site Investigation Report
Former Decontamination Complex, Parcels 93(7), 46(7), 70(7), and 140(7)
Fort McClellan, Calhoun County, Alabama

General Response to All Comments:

The Army appreciates EPA's input on the Final SI Report for the Former Decontamination Complex. However, the Army considers all outstanding issues resolved at the Former Decontamination Complex. Therefore, individual responses to EPA comments have not been provided.

This decision is based on the following developments:

1. The portion of this site located south of Trench Hill Road, which comprises over 80 percent of the site, has been transferred to the National Guard Bureau (NGB). The NGB will be responsible for any additional investigation or remedial action should it be required.

2. The Alabama Department of Environmental Management concurred with the conclusions and recommendations of the final report on April 5, 2005. See enclosed letter.

Comments from Doyle T. Brittain, EPA Senior Project Manager, received on January 22, 2004.

GENERAL COMMENTS

Comment 1: **The conclusions of the report can be improved by the separation of risk assessment from risk management. In particular, this regards the PAHs in the surface soils and the arsenic in the drainage ditch on the eastern border of the site. Many of the other chemicals originally identified as COPCs were determined to be naturally occurring by the geochemical evaluation. Acetone remains a COPC in ground water.**

Comment 2: **EPA agrees with the Army's response to comments, and the comments were appropriately addressed in the report except for adding the rational to explain why the arsenic in sediment was not being investigated further.**

Comment 3: **PAHs were eliminated as COPCs due, in part, to infrequent detection at levels above the background and human health site-specific screening levels (SSSLs). A risk assessment or its equivalent should be performed to calculate the exposure point concentration for the human receptors, assuming an appropriate exposure area. The reasoning for eliminating PAHs as COPCs should be based on exposure. That is, the case should be made that people will be less exposed to the carcinogenic PAHs than was assumed.**

Comment 4: PAHs were elevated above the SSSLs, the ecological screening values (ESVs), and background primarily in four surface soil samples of 32 total samples. The Army argued that the chemicals are not a risk because they were judged to be unrelated to historical mission-related activities. The Army's position is that the PAHs in soils are not a risk because the pavement was potentially the source. The source of the PAHs is irrelevant to the question of risk. If there is a potential risk, such that unrestricted land reuse is inappropriate for this site, this fact must be communicated in the SI report.

Comment 5: A reason PAHs were eliminated as COPCs was due to the four primary samples with elevated concentrations having been collected under asphalt. The source of the PAHs is pure speculation, as oil stains on soils and oil sheens on the creek were documented in the site history. No support was provided for the Army's position that asphalt was the source of the PAHs.

Comment 6: The protocol for determining whether the chemicals were related to historical mission-related activities was to screen the data against site-specific background data for industrialized portions of the Main Post. Any confounding effects, resulting from the presence of asphalt, were taken into account by the background screening, which used data compiled from samples collected adjacent to or under asphalt. If the PAHs were caused by the asphalt, then all the samples taken under asphalt should have been high. This was not the case. Samples FTA-95-GP05 through -07 and FTA-93-GP27 and FTA-93-GP28 had very low or non-detected concentrations of PAHs. In general, research has shown minimal leaching of PAHs into soils beneath asphalt. The elevated concentrations of PAHs associated with asphalt are caused by washing of materials from the surface of the pavement onto nearby soils (Sadler et al. 1999; Münch, 1992). Additional risk assessment or rationale is needed to support a decision to eliminate PAHs as COPCs in surface soils.

Comment 7: PAHs in surface soils at the three or four locations with the highest concentrations may exceed the levels that are toxic to soil invertebrates and nitrifying bacteria in soil (Sverdrup et al. 2002). The nature and magnitude of the risks should be discussed. A decision to forgo further risk evaluation is a risk management decision. As such, it should be kept separate from the discussion of risk. That is, the risks should be described first before a risk management decision is made. It should be clearly presented that this was a risk management decision, which took into account the proposed future industrial land reuse.

Comment 8: Arsenic in sediments of the eastern drainage ditch/creek is elevated above levels that are potentially toxic to sediment invertebrates (USGS 2000). Per comments on the draft SI, additional discussion was to be added to the SI on the locations of the elevated arsenic in sediment. The risk associated

with the arsenic in sediment should be described before a risk management decision is made. That is, the decision not to further evaluate arsenic in sediments or in surface water should be presented as a risk management decision. As was presented in the original comment, the creeks and drainage ditches should have a separate discussion presenting rationale for why they are not being evaluated further, because the text on Page 6-2 applied to the terrestrial portion of the site.

SPECIFIC COMMENTS

Comment 1. **Executive Summary, Page ES-2, lines 29-32. Text indicated that constituents were determined not to pose a risk to ecological receptors based on several things. Two such things, namely the statistical/geochemical evaluation and the judgement that constituents were unrelated to historical mission-related activities, do not pertain to risk. Naturally occurring constituents can present a risk. Likewise, constituents that are present but not related to mission activities can present a risk. Text should be clarified to separate the risk assessment from the risk management. Text should not imply that constituents were not a risk because they were naturally occurring or that they were not a risk because they were unrelated to mission activities.**

Comment 2. **Table 6-2, Constituents of Potential Ecological Concern. The table indicated that there were two samples that exceeded ESVs and background near asphalt. There were more samples than two because there had to be at least the four primary samples that exceeded the SSSLs and background. If an argument is made for minimal ecological risk due to the presence of the pavement as a barrier to contact with contaminated soils, future use restrictions should include maintenance of the pavement.**