



10 February 1994

Mr. James Colter
c/o Commanding Officer
Northern Division, NAVFAC
10 Industrial Highway, Mail Stop 82
Lester, PA 19113-2090
ATTN: Code 1821/JLC

RE: Draft Final Evaluation Report for Willow Grove Soil Stockpiles.

Dear Mr. Colter:

Enclosed you will find the Draft Final Evaluation Report of Remedial Alternatives for Soil Piles at the Navy Fuel Farm, NAS Willow Grove. As we have discussed, due to changes in the regulations of fuel contaminated soil, the final draft was prepared for your review prior to finalizing the draft copy submitted last November.

Comments from Northern Division and the EPA were received and addressed as follows:

Northern Division Comments

In response to your verbal comments the text has been changed to include more information on asphalt incorporation. **Specifically, the sections were expanded to include information on the amount of asphalt material produced from soil, the quality of that asphalt material, and what is the next step in determining if the soil at Willow Grove is suitable for asphalt incorporation.**

In addition, since the draft report was submitted, PADER has issued new guidelines on Cleanup Standards for Contaminated Soil. This guidance is also enclosed for your review. The new guidance sets numerical, generic, cleanup levels for many organic and inorganic compounds. The new guidance sets the cleanup levels for contamination from non-petroleum sources as well as petroleum contaminated soil. Three criteria are set forth in the guidance; the direct contact noncancer risk level (for noncarcinogens), the 10^{-6} excess cancer risk level (for carcinogens), and the ground water protection level (for both carcinogens and noncarcinogens). The cleanup level is the lowest of these three levels and is typically the ground water protection level.

The report was changed to reflect the new guidance. The most significant changes are:

- (1) level A, B or C soil classifications are no longer in use,

- (2) the notion of "clean fill" no longer exists. Soil can no longer be used offsite as fill and can be used on site only if precautions are taken to minimize exposure to human and environmental receptors.
- (3) in addition to petroleum contaminated soil, the cleanup levels also apply to soil contaminated with non-petroleum substances

EPA Comments

In general the EPA comments are concerned with (1) the soil may be contaminated with solvents in addition to petroleum (JP-4/JP-5) as evidenced by sample results from previous studies, and (2) if the soil is contaminated with chemical other than JP-4/JP-5, do PADER regulations on petroleum contaminated soil apply.

These comments are addressed as follows:

General Comments

Comment #1 - EPA is concerned that the contamination at the Fuel Farm is not solely from petroleum products. They base this opinion on a review of data contained in *Site Inspection Studies at NAS Willow Grove - Vol I (EA May 1990)*. Specific concerns are summarized below

- a) Non petroleum VOC reported in soil samples from well installations/soil borings at the Fuel Farm include acetone and methylene chloride were detected in soil samples from the fuel farm. The report attributed this to lab contamination but neither acetone or methylene chloride was found in lab blanks. In addition MEK and MIBK were also detected. Acetone was found in 3 of 4 samples at 42 $\mu\text{g}/\text{kg}$ to 190 $\mu\text{g}/\text{kg}$; methylene chloride was reported in 1 sample at a concentration below the quantification limit - 2300(J) $\mu\text{g}/\text{kg}$; MEK reported in 1 sample at 88 $\mu\text{g}/\text{kg}$; and MIBK in 1 sample at 29 $\mu\text{g}/\text{kg}$.

EPA asked that the conclusion that acetone and methylene chloride be better supported. **See comment #2 below for how this comment is addressed.**

- b) The following non-petroleum VOC were also detected in water samples:

MEK - 4 out of 6 samples ranging from 188.78 $\mu\text{g}/\text{l}$ to 2862.2 $\mu\text{g}/\text{l}$
TCE - NFFW-7 duplicate sample only at 10.85 $\mu\text{g}/\text{l}$
Acetone - 2 out of 6 samples ranging from 322.9 $\mu\text{g}/\text{l}$ to 1907.5 $\mu\text{g}/\text{l}$
Methylene chloride - 1 of 7 samples - 108.33 $\mu\text{g}/\text{l}$ in NFFW-5

EPA comments that acetone and methylene chloride do not appear to be a result of lab contamination since they were not found in method blanks. **See comment #2 below for how this comment is addressed.**

- c) Trace levels of chlorinated hydrocarbons (1,1,1-TCA and 1,1,1-DCA) were also detected in water samples from NFFW-1 and NFFW-3. These compounds were not detected in the water used for drilling the wells but have been detected in the water supply for the base. EPA assumes that the base water supply was not used to drill the wells. **See comment #2 below for how this comment is addressed.**

Comment #2 - This comment discusses Comment #1 a through c. EPA suggests that the presence of non-petroleum related constituents be addressed as part of the free-product AAS/SVE pilot system. **No action on Comments #1 or #2 is necessary at this time.**

Comment #3. Passive volatilization may be an appropriate technology. At this time, the text has not been changed to include this option. **This option will be included in the final report, however, it is not expected to change any recommendations at this time because selection of any option is contingent on the results of additional sampling and analyses.**

Comment #4. PADER is likely to require control of off gases from any onsite treatment of the soil. However, based on EA experience at other sites in PA, the possibility exists that negotiations with PADER could result in air emissions not being treated. As a result, the draft report was intentionally wishy-washy on the subject that of control of air emissions. **No changes on this subject have been made to the final report.**

Comment #5. Community acceptance of the treatment of this soil can be addressed through the TRC. **A sentence stating that community acceptance will be obtained through TRC review has been added to section 3.1, paragraph 1.**

Comment #6. EPA suggests that this report follow an RI/FS type of format with a detailed analysis of alternatives to document the decision making process and the rationale for selecting a treatment/disposal option. **This was not the style of report which the Navy requested or which EA proposed. Therefore, the report format was not changed.**

Specific Comments

Section 1.1 (page 1-1, second paragraph) - No response to EPA comment is needed

Section 1.2 (page 1-1, first paragraph) -

- Comment #1 - **A sentence stating that the diesel and waste oil USTs have been removed has been added to this paragraph.**

Comment #2 - The waste oil tank has been described as a UST (EA May 1990 and Sept 1991) and as an AST (EA July 1993). **The report includes a reference to the waste oil tank as a UST.**

Comment #3 - Various reports have described the oil/water separator at the Fuel Farm as a catchment basin and a sump. **The figures in this report are being changed to be consistent and call the catchment basin/sump as an oil water separator.**

Comment #4 - EPA asks about the dry well in figure 1-2. They want to know the function of the dry well and if it still exists. From previous reports the dry well was used for tank bottoms. The dry well no longer exists. **The text has been changed to include this information.**

Comment #5 - EPA asks that all building and other man made features be identified in Figures 1-2 and 1-3. **These figures have been changed to identify the pump house, building 119, building 81, and the oil/water separator as appropriate.**

Section 1.2 (page 1-2, second paragraph) - **A sentence stating that soil samples from the "contaminated" soil pile and the "contaminated" concrete pile have not been analyzed was added to this paragraph.**

Section 1.2 (page 1-2, third paragraph) - Concentration of compounds which are not JP-4/JP-5 constituents are probably too low to cause the soil to fail the TCLP test. In addition, the new PADER guidance applies to non-petroleum as well as petroleum contaminated soil. **Based on past analytical results, acetone, MEK and methylene chloride were added to the analytes list in Chapter 4.**

Section 1.3 (page 1-2, first paragraph) - Petroleum Impacted Media & Debris - USTs

Comment #1 - this comment clarifies that the TCLP exemption for petroleum contaminated media and debris is for organic chemicals only (haz waste codes D018 to D043 only) and is that the exemption is temporary. **A sentence stating that the exemption is temporary and a table listing the chemicals which the exemption covers were added.**

Comment #2 - EPA states that a final rule has been proposed to make the temporary deferral permanent. The final rule could be different from the temporary deferral and EPA asks that we find out if the final rule has been issued. **I contacted John Heffelfinger, Special Assistant to the Director of EPA's Office of USTs, he told me that the proposed rule has not been finalized and that it probably will not be finalized until later this year.**

Comment #3 - In this comment EPA asks that the discussion of the regulatory status of the soil pile include info from comments #1 and #2 above. **I included relevant info in the discussion.**

Section 1.3 (page 1-2, first paragraph) - Petroleum Impacted Media & Debris - Non-USTs

Comment #1, #2, and #3 - These comments pertain to petroleum contaminated media and debris from non-UST sources. The proposed rule referenced in this paragraph was mentioned because of the possibility that other petroleum contaminated soil may have been added to the soil stockpile. The proposed rule has not been finalized and as of today, non-UST petroleum contaminated debris is not exempted from the definition of hazardous waste. The rest of the EPA comments are educational but do not require a change to the report. **A sentence was added to reflect the fact that the proposed rule has not been finalized.**

Section 1.3 (page 1-3, second paragraph) - In this comment EPA states that the comments above which pertain to soil also pertain to concrete debris. The changes made to the report are sufficient to address this comment.

Section 2.2 (page 2-1, first paragraph)

Comment #1 and #2 - These comments reference the applicability of the old PADER guidance to non-petroleum contaminated soil. Since the PADER guidance has changed, this paragraph has been changed. **The new guidance sets generic cleanup levels for soil which is contaminated with non-petroleum constituents and the text has been changed to reflect this.**

Section 2.3.2 (page 2-3, first paragraph) - **The text has been changed to clarify that the term "total RCRA metals" refers to the 8 metals listed in 40 CFR 261.24 Table 1).**

Section 2.3.5 (page 2-7, second paragraph, third bullet) - This bullet says that onsite treatment is favored by EPA and PADER.

Comment #1 - EPA comments that all remedies are site specific.

Comment #2 - EPA comments that predicting "quick regulatory approval" is premature.

Comment #3 - EPA comments that the Navy get PADER and community input on the onsite -vs- offsite issue.

Comments #1, #2, and #3 above were addressed by deleting this bullet. This bullet did not add much and deleting it does not diminish the report.

Comment #4 - this comment says that EPA will work with the Navy on the soil pile remediation but that the site is not on the NPL and as a result the remediation of the soil may not be within the scope of the EPA Superfund group.

Section 2.3.8 (page 2-11, second paragraph) - The 3 comments on this paragraph refer to the definition of clean fill. The PADER guidance has changed and in the new guidance "clean fill" does not exist. **The text has been changed in the appropriate places to reflect this change.**

Section 2.4 (page 2-15) - This comment states that the concrete may be subject to PADER residual waste regulations. This concrete could be defined as a residual waste and would require disposal in a landfill which is permitted to accept residual waste. **The text has been changed in the appropriate places to include this info.**

Section 3.1 (page 3-1, first paragraph) - This comment restates the point of view that the remedy selection process should follow an RI/FS format.

Section 3.1 (page 3-2, "Recommendations") - EPA comments on the recommendations section. To summarize, EPA states that we do not make a final recommendation because the remedy depends on the amount of soil to be treated has not been determined and the potential to combine soil pile remediation with the AAS/SVE pilot system.

However, EPA notes that we do make certain assumptions to eliminate some options and we do conclude that offsite asphalt batching is the preferred remedy in the absence of cost savings associated with combining the soil pile remediation with the AAS/SVE pilot system.

This section has been edited incorporate some of these comments. However, this comment is more a summary of the recommendations section than a comment on items which need correction.

Section 3.2 (page 3-2) - The concrete is not defined as a residual waste. If the concrete is nonhazardous it is a considered construction/demolition waste and is regulated as a municipal waste under the Residual Waste Regulations. The text has been changed in the appropriate places to include this information

Table 3-1 - **Table 3-1 has been revised to include options which were not fully defined, such as high temperature vs low temperature thermal treatment and hot mix vs cold mix asphalt batching.**

Section 4.1 (page 4-1, first paragraph) - EPA agrees with the phased approach to soil sampling. **No changes to the text required as a result of this comment.**

Section 4.1 (page 4-1, second paragraph) - EPA suggests a map of soil sampling locations be made. **The text was changed to include this suggestion.**

Section 4.2 (page 4-1, third paragraph) - This comment has to do with the final disposition of Level A or B soil. EPA comments that additional sampling and final disposition of soil will could add significantly to the cost. No changes tot he text were made as a result of this comment. This issue is best discussed after completing the additional sampling and analysis of the soil. piles

Section 4.2 (page 4-2, first paragraph) - EPA comments that the sampling strategy needs to be discussed with PADER. No changes to the text are needed.

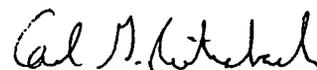
Section 4.2 (page 4-2) - EPA asks that the status of the concrete with relation to the residual waste regulations be discussed in this section as wells as in section 2.4. EPA asked that we clarify the number of samples to be composited. The text states that a representative sample will be collected. What constitutes a representative sample will be determined after further examination of the soil pile to assess the amount of concrete which is stained.

References - the references listed by the EPA were added aas appropriate.

Appendix A - this appendix contains all the available analytical results of tests on the soil piles.

Please review the draft final report and we will discuss any comments you may have at your convenience.

Sincerely,



Carl G. Reitenbach
Task Order Manager

cc: C. Houlik
S. Morekas
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