

**RESPONSES TO EPA COMMENTS FOR
DRAFT DETAILED ANALYSIS OF ALTERNATIVES REPORT
SITE 13 - DISPOSAL AREA NORTHWEST OF BLDGS W-3, W-4, AND T-1
NAVAL CONSTRUCTION BATTALION CENTER
DAVISVILLE, RI**

General Information

These are the responses to the EPA's comments to the document entitled, "Draft Detailed Analysis of Alternatives Report: Sites 6 and 13". Only comments which pertain to Site 13 are addressed in this document. EPA's comments are contained in their letter dated 13 June 1994. Comments which pertain to Site 11 addressed under a separate cover, dated 17 April 1995.

As approved by the EPA and RIDEM, ground water at these sites has been designated as a separate, base-wide operable unit. Accordingly, comments pertaining to ground-water remediation will be considered as part of the RI/FS for the ground-water operable unit. However, general information pertaining to ground water including flow direction, depth, and contaminant levels was included in these responses. Comments pertaining to this general information are addressed in this document. A Draft Final DAA will not be submitted. PCB-contaminated soil at Site 13 will be addressed as a time-critical removal action. An Action Memorandum which addresses the removal action is being prepared by the Navy.

General Comments

1. The description of the past investigations and site contamination presented in Section 2.0 is difficult to follow and leaves the reader questioning the relevance of some of the subsections. The section should be reviewed and updated with an effort to present the contamination at Site 06 in the context of the overall NCBC site. For example, Section 2.6 states that lead was found upgradient of the site and it is, therefore, concluded that lead is present across the entire site at background concentrations. This discussion, as currently written, is unclear because the text does not explain what the relationship is between Site 06 and the upgradient detection of lead. This concern is also related to the lack of information provided on background at the site. For Site 13, the relationship between PCB and pesticide contamination at other sites and Site 13 is unclear.

In addition, Section 2.0 does not summarize the remedial investigation (RI) data in a way that makes it easy for the reader to quickly understand the concerns regarding the site. This could be corrected by presenting summary figures that indicate the extent of contamination in excess of the cleanup levels and the range of analytical results for each sampling point.

Response: The FS presents a summary of data generated during the RI. In accordance with the RI and the Federal Facility Agreement, the investigation and evaluation of the former NCBC facility was conducted on a site-by-site basis. Where information

is available to evaluate site conditions on a facility-wide basis, such an evaluation was conducted (e.g., the comparison of soil contaminants to background levels based on the collection and analysis of facility-wide background soil samples). The presence of pesticides at Site 13 is evaluated based on a comparison to background soil samples levels. Since soil samples originally collected as background samples which exhibited PCBs have been determined to not be representative of background, a facility-wide evaluation of the presence of PCBs cannot be conducted.

Since preliminary remediation goals are not discussed until Section 3.0, Section 2.0 is not an appropriate place to present contaminant levels in excess of cleanup levels. Such a presentation is made in Section 3 including figures which show the locations of samples which exhibited contaminants above preliminary remediation goals.

2. The feasibility study (FS) screens out the use of soil removal as a general response early, due to the fact that the soil contamination is not a principal threat. I understand the use of containment for areas that are not a principal threat, but for these sites, the area of contamination is small, and removal might be less expensive and would be more effective in the long-term than deed restrictions. Therefore, the FS should be updated to include soil removal and off-site disposal (at a minimum) as a general response, and carry it through the screening and the detailed analysis.

Response: At Site 13, the Navy will be conducting a time-critical removal action to address PCBs in soil. Soil removal and offsite disposal are planned.

3. The description of the alternatives, and the evaluation of the alternatives against the National Contingency Plan (NCP) evaluation criteria is very cursory and should be enhanced. The description of the alternatives should present a more complete picture of the Navy's remedial action. For example, where deed restrictions would be required, a figure showing the anticipated area where these restrictions would be instituted should be included; also, a discussion is lacking as to how long the remedial action will take to implement and complete.

Response: A response to this comment is not being prepared because PCB-contaminated soil at Site 13 will be addressed as a time-critical removal action. An Action Memorandum which addresses the removal action is being prepared by the Navy. The Action Memorandum will provide information on how long the removal action will take. The need for deed restrictions will also be addressed by the Action Memorandum.

4. The evaluation of the alternatives against the NCP criteria needs to present the baseline risks from the site, and how the implementation of the remedial action would reduce them, and what the residual risk would be.

Response: Baseline risks are presented in Section 2 of the report. Additional qualitative discussions will be presented in the Action Memorandum about how the implementation of the removal action will reduce baseline risk.

5. This Detailed Analysis of Alternatives Report has been written prior to completion of the response to comments on the draft RI. Therefore, any conclusions that have been based on the draft RI are preliminary, and it should be kept in mind that changes to this report may be required once the draft RI has been completed and approved. The points of primary concern that could have the greatest impact on the detailed analysis of alternatives and subsequent recommendation of a preferred remedy are:

- Risks associated with the inhalation of volatile emissions by a worker in a trench (see Response to US EPA and RIDEM Comments on the Draft Remedial Investigation Report, March, 1994, Section 2, pg. 3)
- Background concentrations require complete reassessment
- Changes to the Ecological Risk Assessment (this may not significantly affect Site 06)

Other issues addressed in the RI comments, although not specifically noted here, may also impact the detailed analysis of alternatives.

The Navy should thoroughly review the comments on the draft RI, together with these comments in the Detailed Analysis of Alternatives Report, and incorporate any changes required as a result of both sets of comments.

Response: The risks associated with inhalation of volatile emissions by a worker in a trench are included in the discussion of the risks associated with the future construction worker scenario and are presented in Table 2-4 of the Draft DAA. (Although the Draft Final RI had not been submitted at the time the Draft DAA was submitted, the risk calculations had been completed and were included in the Draft DAA). These risks do not contribute significantly to the overall pathways risk estimate.

The revised background concentrations (which were included in the Sites 02 and 07 DAA Report) will be incorporated into the Action Memorandum.

The majority of the Ecological Risk Assessment discussion presented in Section 2.9 remains accurate. The conclusions of the Draft Final Ecological Risk Assessment (Section 7.2.4) will be considered in the Action Memorandum.

Specific Comments for Site 13

1. Page 2-4, Section 2.4: First Full Paragraph - The section needs to provide a more detailed description of the RIDEM ground-water classification. The discussion should include the reason that the ground water is classified as GB; explain the extent of the GB classification; and show a map depicting the region that is classified as GB. It is

also unclear as to why the ground-water classification was presented in this Ecological Setting section. This section needs to describe the connection between the site and the Hall Creek Watershed.

Response: A discussion of the ground-water quality classification is included in Section 1.4.2 (Regional Hydrogeology) of Volume I of the Draft Detailed Analysis of Alternatives. A more detailed discussion of the ground-water classification and Hall Creek Watershed will be presented in the RI/FS for the ground-water operable unit.

2. Page 2-10, Section 2.6.2: Fourth Paragraph - This paragraph states that most of the SVOCs detected in the subsurface were less than the NCBC background range. This statement needs more elaboration, including how background was calculated, what samples were used, what the background concentrations are, etc.

Response: Background soil concentration ranges for those contaminants for which a comparison is pertinent are provided in Table 2-3 (note: all background soil quality discussions in the Action Memorandum will reflect the revisions presented in the Draft Final RI).

3. Section 2.6 - This section would be easier to follow if figures were presented that summarized the contaminant data for all sampling rounds.

Response: There are no figures associated with Section 2.6 and no figures are referenced within this section of text. The discussion, as presented, is a summary of information presented in the RI. Presentation of all sampling results for all sampling locations is unnecessary and would be very difficult to present in a neat and easy-to-read manner. The information pertinent to conducting an FS (the contaminant levels and sample locations for contaminants detected above preliminary remediation goals) is presented in Section 3 and its associated figures.

4. Page 2-16, Second Paragraph - The statement that windblown dust and surface runoff "are expected to be moderate" is inappropriate. Moderate is a relative term. One would expect that in a flat area where vegetation is sparse, the potential for dust generation and surface runoff is high. However, the terms "moderate" and "high" depend upon some benchmark or reference point. This statement should be deleted, or some point of comparison provided with actual quantitative measurements of comparison.

Response: Revisions incorporated within the Draft Final RI fate and transport discussions will be considered during the preparation of the Action Memorandum and the design for the removal action. Engineering controls will be used to minimize dust and excessive surface runoff during the removal of PCB-contaminated soil.

5. Table 2-4 - The note under the Non-Cancer Risk table should be changed to state the shading indicates an exceedance of the non-cancer risk.

Response: This comment has been noted and further uses of this table in the Action Memorandum will incorporate this change.

6. Section 3.2 - This section should present cleanup levels for the COCs by medium and indicate what the residual risk to human health and the environment would be if these levels were met.

Response: Remedial action objectives are provided by medium in this section. Cleanup levels, as referenced, consist of ARARs and PRGs, where available. Additional qualitative discussions will be added in the Action Memorandum about how the implementation of remedial actions will reduce baseline risks.

7. Table 3-7, pg. 3 - It is unclear as to why dechlorination and solvent extraction would be applicable when solvent extraction, thermal desorption, and solidification are not.

Response: As noted on page D-2 of Appendix D, a number of technologies, including thermal desorption and solidification were eliminated from further consideration on the basis of the small volume of soil potentially requiring remediation and the technical infeasibility of applying these technologies to such a limited soil volume. As noted on page D-11, a minimum volume of 5,000 cubic yards is necessary for thermal desorption to be economically feasible. A screening of these technologies will not be presented as part of the Action Memorandum for a time-critical removal action at Site 13.

8. Table 3-7, pg. 4 - The use of in-situ technologies for such a small volume of contamination does not appear to be appropriate. This is particularly true where the contamination would be forced to migrate to the water table prior to being removed.

Response: A response to this comment is not being prepared because PCB-contaminated soil at Site 13 will be addressed as a time-critical removal action. An Action Memorandum which addresses the removal action is being prepared by the Navy.

9. Table 3-8 - On-site treatment needs to be explained. As the table is currently written, this process option could include many different treatment technologies. In addition, off-site treatment needs to be explained for the same reason.

Response: This comment appears to be in reference to Table 3-9, not Table 3-8. As discussed in Appendix D, due to the limited volumes of sediment requiring treatment and the similarity in contaminant types for soil and sediment, it is assumed that the sediment treatment options would be tied to the soil treatment options (i.e., sediment and soil would be treated using identical treatment technologies). Therefore, the detail on onsite and offsite treatment is provided in the soil technology screening table and is not repeated in Table 3-9. A screening

of these technologies will not be presented as part of the Action Memorandum for a time-critical removal action at Site 13.

10. Table 3-24 - It is unclear as to why soil excavation is necessary for in-situ fungal degradation in Alternative S-4.

Response: Soil excavation is not necessary for in-situ fungal degradation. Alternative technologies are not being presented in the Action Memorandum for a time-critical removal action at Site 13.

11. Page 4-5, Section 4.2.3 - A figure should be presented that defines the area that would have deed restrictions.

Response: A response to this comment is not being prepared because PCB-contaminated soil at Site 13 will be addressed as a time-critical removal action. An Action Memorandum which addresses the removal action is being prepared by the Navy.

12. Page 4-6, Section 4.2.4: Third Paragraph - The reference to the alternative's inability to meet ARARs is out of place in this paragraph and should be removed. In addition, this paragraph mentions the fact that there are principal threat wastes; however, Section 3.0 did not define principal threats and it is not clear as to whether any principal threats exist at the site. A description of principal threats needs to be added to Section 3.0.

Response: A response to this comment is not being prepared because PCB-contaminated soil at Site 13 will be addressed as a time-critical removal action. An Action Memorandum which addresses the removal action is being prepared by the Navy.

13. Page 4-7, Section 4.2.5 - It is not clear why the entire site would be capped when, based on Section 3.3.1, only 11,800 sq ft are contaminated in excess of cleanup levels. This discrepancy needs to be explained.

Response: While only 11,900 sq ft of surface soils are contaminated at levels exceeding PCB cleanup levels and risk-based PRGs for soils, the potential contribution of both pesticides and PCBs present in surface soils across the site at levels less than surface soil cleanup levels/PRGs to catch basin sediments (see Section 3.2.1) and ultimately to Hall Creek was also considered. Therefore, the extent of the cap was defined to cover the entire site to address any potential contribution due to runoff of pesticides or PCBs to catch basin sediments. A screening of this technology will not be presented as part of the Action Memorandum for a time-critical removal action at Site 13.

14. Sections 4.2.5 through 4.2.10 - The organization of these sections makes it difficult for the reader to understand what the remedial action would entail. Specifically, it is unclear why Sections 4.2.5 and 4.2.6 are necessary.

Response: A response to this comment is not being prepared because PCB-contaminated soil at Site 13 will be addressed as a time-critical removal action. An Action Memorandum which addresses the removal action is being prepared by the Navy.

15. Section 4.2.7 - This alternative should also include deed restrictions and fencing.

Response: A response to this comment is not being prepared because PCB-contaminated soil at Site 13 will be addressed as a time-critical removal action. An Action Memorandum which addresses the removal action is being prepared by the Navy.

16. Page 4-10, Section 4.2.8: First Paragraph - The discussion on the alternative's ability to meet ARARs is out of place and should be removed. The paragraph should focus more on the reduction in human and environmental risk. This should also be corrected in all the other NCP Evaluation Sections.

Response: A response to this comment is not being prepared because PCB-contaminated soil at Site 13 will be addressed as a time-critical removal action. An Action Memorandum which addresses the removal action is being prepared by the Navy.

17. Page 4-11, Section 4.2.8: Second Paragraph - This reduction in the mobility of the contamination through the installation of a cap over the site is not considered reduction of mobility through treatment. Therefore, this alternative cannot take credit for a reduction in mobility through treatment.

Response: A response to this comment is not being prepared because PCB-contaminated soil at Site 13 will be addressed as a time-critical removal action. An Action Memorandum which addresses the removal action is being prepared by the Navy.

18. Section 4.2.9 - See comment 14.

Response: A response to this comment is not being prepared because PCB-contaminated soil at Site 13 will be addressed as a time-critical removal action. An Action Memorandum which addresses the removal action is being prepared by the Navy.

19. Sections 4.2.11 and 4.2.12 - The relevance of these two sections is unclear. Our recommendation is to delete them and incorporate the data in the other sections for Alternative S-4.

Response: A response to this comment is not being prepared because PCB-contaminated soil at Site 13 will be addressed as a time-critical removal action. An Action Memorandum which addresses the removal action is being prepared by the Navy.

20. Section 4.2.17 - This section needs to describe what the residuals will be from the treatment process, and how they will be disposed of. In addition, the text states that the solvent extraction process can only reduce contamination in the soil by 99 percent, which will leave approximately 45 mg/Kg in the soil. Because the PCB contamination

in the soil may be above 10 mg/Kg, the final disposition of the soil needs to be described.

Response: This section describes the potential for residual triethylamine (TEA) within the soil following treatment and provides reported residual TEA levels as measured in a SITE demonstration. It also states that the residual solvent is typically transported to an incinerator for final destruction. Other residuals and their treatment and disposal costs vary depending on the contaminants initially present in the soil and are not clearly defined within the SITE report. Residuals are also dependent on the specific vendor and solvent extraction process selected and cannot be determined at this point in time.

Of note in the potential evaluation of the effectiveness of this technology is the consideration that the concentration of PCBs in the soil used within the Draft DAA as the basis of the analysis, 4,563 ppm, is based on variable analytical data. As presented in Section 2.6.3, a sample collected during the Phase I RI exhibited a level of 1.2% PCBs during its original analysis. However, due to laboratory QA/QC problems, the sample and a duplicate were recollected and reanalyzed, exhibiting 970 ppm and 720 ppm, respectively. An average of these three results, 4,563 ppm, was presented in the Phase I RI as the maximum detected PCB concentration and was used within the Draft DAA. However, based on the reanalysis of data conducted during the Phase I RI as part of the human health risk assessment process, the original sample was discounted and an average of the recollected sample and duplicate results, 845 ppm, was used as the maximum PCB concentration. The Draft Final DAA will be revised to reflect this concentration and thereby maintain consistency with the Draft Final RI. Based on this concentration, the treatment process would be expected to treat the PCBs to a residual concentration of less than 10 mg/Kg.

A time-critical removal action (with subsequent offsite treatment) is being planned at Site 13. An Action Memorandum which addresses this removal action is being prepared by the Navy. Details of the post-treatment residuals and final disposal location will be addressed in the design for the removal action.

21. Section 4.2.19 - More information needs to be provided on past experience with fungal degradation.

Response: A response to this comment is not being prepared because PCB-contaminated soil at Site 13 will be addressed as a time-critical removal action. An Action Memorandum which addresses the removal action is being prepared by the Navy.

22. Section 4.3 - This section needs to note, where appropriate, that Alternatives 4B, 4C, and 4D will not treat the inorganic contamination. In addition, the concern regarding low-level surficial runoff if Alternative S-4 is implemented should be discussed earlier.

Response: A response to this comment is not being prepared because PCB-contaminated soil at Site 13 will be addressed as a time-critical removal action. An Action Memorandum which addresses the removal action is being prepared by the Navy.

23. Sections 4.4.5 through 4.4.14 - The organization of these sections makes it difficult for the reader to understand what the remedial action would entail. The alternatives would be easier to understand if Alternative 3A was Carbon Adsorption and included all the information for that remedial action, and Alternative 3B was Precipitation, and included all the information for that remedial action. When information is repeated between Alternatives 3A and 3B, the description of Alternative 3B can reference Alternative 3A.

Response: Ground water at the NCBC sites is designated as a separate, base-wide operable unit. This comment will be considered as part of the RI/FS for the ground-water operable unit.

24. Sections 4.4.5 through 4.4.14 - The treatment of the ground water for inorganics is unclear. It appears, based on the text in Section 4.4.5, that inorganics are not considered COCs. This disagrees with Section 3.2 and requires a better explanation in the detailed analysis.

Response: Ground water at the NCBC sites is designated as a separate, base-wide operable unit. This comment will be considered as part of the RI/FS for the ground-water operable unit.

25. Sections 4.4.5 through 4.4.14 - The descriptions of the alternatives are very cursory and need to be expanded. Information, such as the following, needs to be included in these sections:

- Volume of ground water to be treated
- Contaminant concentration going to the treatment process
- Sludge volume
- Disposal location
- Regeneration frequency of iron exchange resins
- Type of regenerant
- Regenerant disposal method

Response: Ground water at the NCBC sites is designated as a separate, base-wide operable unit. This comment will be considered as part of the RI/FS for the ground-water operable unit.