N00129.AR.000513
NSB NEW LONDON
5090.3a

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
JOHN F. KENNEDY FEDERAL BUILDING
BOSTON, MASSACHUSETTS 02203-0001

April 10, 1997

Mark Evans, Remedial Project Manager
U.S. Department of the Navy
Naval Facilities Engineering Command
Northern Division
10 Industrial Highway
Code 1823, Mail Stop 82
Lester, PA 19113-2090

Re: Work Plan and Sampling Analysis Plan for Lower Subase Remedial Investigation

Dear Mr. Evans:

I am writing in response to your request for EPA to review the *Work Plan and Sampling Analysis Plan for Lower Subase Remedial Investigation, Naval Submarine Base New London, Groton, Connecticut* dated March 1997. EPA reviewed the work plan in light of EPA guidance, the recommendations in the *Lower Subase Existing Data Report*, and responses to EPA's letter dated March 26, 1997. Detailed comments are provided in Attachment A.

As we have discussed, if contaminant levels in the sediments exceed ecotoxicological benchmarks additional sediment toxicity testing may be necessary to better characterize the magnitude of adverse impacts to the benthic community. Overall, additional investigations should focus on linking sources of contaminants at the NSB to potential impacts to surface water and sediments in the Thames River.

I look forward to working with you toward the cleanup of the Lower Subase. Please do not hesitate to contact me at (617) 573-5777 should you have any questions or wish to arrange a meeting.

Sincerely,

Kymberlee Keckler, Remedial Project Manager
Federal Facilities Superfund Section

Attachment

cc: Mark Lewis, CTDEP, Hartford, CT
Andy Stackpole, NSBNL, Groton, CT

Recycled/Recyclable
Printed with Soy/Canola Ink on paper that contains at least 75% recycled fiber

Patti Lynne Tyler, USEPA, Boston, MA
Ken Finkelstein, NOAA, Boston, MA
Jennifer Hayes, Gannett Fleming, Harrisburg, PA
Matthew Cochran, Brown & Root, Pittsburgh, PA

ATTACHMENT A

Page	Comment
p. 1-16, §1.4.1.1	The current sampling proposal does not include analysis for lead in surface soil or deep soil samples collected from Zones 5 and 7. This does not satisfy the data quality objective of providing sufficient data for the human health risk assessment. All soil samples should be analyzed for lead. Also the total number of shallow and deep samples (historic and proposed) with lead analytical data within other zones may not satisfy the objective of providing sufficient data for the human health risk assessment. EPA's Technical Review Workgroup for Lead has developed a model for use in evaluating risks associated with non-residential adult exposures to lead in soil (EPA 1996), based on the Bowers *et al.* (1994) adult lead model. This 1994 EPA model is recommended for use in EPA Region I for evaluating non-residential, adult exposure to lead in soil. This model requires that the arithmetic mean soil value be input instead of the 95 percent upper confidence limit on the mean or instead of a maximum value. Therefore, a sufficient number of soil samples must be collected to ensure that the calculated mean represents the true mean soil concentration of the area under evaluation. Based on EPA (1992), the number of samples required to accurately characterize the mean is approximately twenty or greater.
p. 1-21, Zones 1-4	In the decision rule development, it is unclear when additional sampling will occur. Recommendations for Zones 1-4 suggest the following: if a SVOC hot spot that does not coincide with a TPH hot spot is identified, conduct further sampling and analysis to delineate the SVOC hot spot. No provision for such additional testing is outlined in the SAP. Please clarify.
Figure 1-4	Soil sampling and analysis to delineate the TPH hot spot around the fuel line along Albacore Road was recommended on page 10-5, Section 10.4, second bullet of the *Lower Subase Background Report*. While additional soil sampling is being performed in Zone 2, only two sampling points are located next to the hot spot. Please explain how this recommendation will be addressed and whether sufficient information on semivolatile constituents will be collected through these two samples.
p. 2-9, §2.4.2	Please provide the slot size opening to screens. Determine the chloride and total dissolved solids levels in the groundwater. Will high levels of either of these parameters cause bentonite to swell and

cause the seal to be incomplete? If so, how can this be avoided or corrected?

p. 2-6, §2.3.5

Sediment sample SW/SD4-5 RI at the outlet of the culvert that drains Area A Downstream should also be analyzed for pesticides.

p. 2-6, §2.3.6

Since limited historical data is available for Zone 6, it is questionable whether the proposed samples will be sufficient for the human health risk assessment. One of the five proposed borings is not located within the Zone 6 boundary and appears to be potentially out of the site's influence. Only five deep and five shallow soil samples are proposed for Zone 6. Therefore, only four deep and four shallow samples will be available for the human health risk assessment. Please provide a contingency for potential additional Phase 2 sampling.

p. 2-10, §2.4.3

No surface water sample collection for chemical analyses is proposed in the Work Plan. Storm water sampling of outfalls during storm events should be considered.

In the response to EPA comments on the *Background Review Report* dated March 26, 1997, the Navy proposed a tiered approach to surface water samples and shellfish cage studies (*see* response to General Comment 4). This approach must be included in the RI Work Plan.

p. 2-18, Table 2-1

Both shallow and deep soil matrices list the analyte "SPLP Metals" with a method reference of "SW 846 1312." However, SW 846 1312 is the method for the extraction procedure only. The referenced method does not include a standard list of metal analyses to be performed. Please revise the shallow and deep soil sections of the table to include the list or group of metals analyses to be performed and the appropriate method references for the metals analyses.

The method reference listed in Table 2-1 for TCL VOC analysis is the same for groundwater and soil. However, the volatile analysis for groundwater samples should use low-level methodology. Please specify the low detection level TCL VOC method for groundwater samples.

The proposed method for the water quality parameters is listed as "B&RE SOP SA 1.1." However, this reference is not included. Since this is not a standard method reference, the reference should be included in the footnote of the table. The SOP SA 1.1 is for groundwater sampling and onsite water quality testing. The footnote should also clarify that these parameters will be field tested and not laboratory analyzed.

It is assumed that analyses for soil and sediment samples will be reported on a dry weight basis. Methodology for performing the percent solids analysis should be included in the table for these matrices.

p. 2-19, Table 2-1 — The proposed method for ammonia analysis is listed as "Modified EPA 350.1." However, there is no explanation regarding how the method will be modified to accommodate a sediment sample. This modification should be clarified in the SAP.

p. 2-21, Table 2-2 — Zone 1 Groundwater Samples. The table indicates that the analytical parameters for Zone 1 Groundwater Samples include a "Bio" analysis. However, there is no reference to or inclusion of a "Bio" analysis in the Environmental Sample Summary (Table 1). If "Bio" refers to a microbiological analysis, specify the microbiological parameter and method reference in the Environmental Sample Summary (Table 1) for groundwater samples for all applicable zones.

p. 2-32, Table 2-3 — Groundwater Analysis Methods, Bottle Requirements, Preservative Requirements and Holding Times applicable to Zones 2, 3, 4, 5, 6, and 7 groundwater samples. Preservation requirements for TCL Volatile Organic Compounds in groundwater should include the requirement that vials be filled to zero-headspace capacity.

Groundwater Analysis Methods, Bottle Requirements, Preservative Requirements and Holding Times. Preservation requirements for dissolved metals should specific that samples will be filtered before preservation with HNO_3.

Groundwater Analysis Methods, Bottle Requirements, Preservative Requirements and Holding Times. Preservation requirements for TCL Volatile Organic Compounds in soil/sediment should be expanded to include the requirement that containers be filled as close to zero-headspace capacity as possible.

p. 2-35, Table 2-4 — Trip Blanks for TCL VOC analysis should be analyzed using the sample methodology that will be used for the associated samples. Trip Blanks associated with groundwater samples should be analyzed using low-level methodology. Trip Blanks associated with soil and sediment samples can be analyzed using routine methodology.

The table indicates that Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses will be performed for all laboratory analyses. However, performance of MS/MSD analyses is not applicable or appropriate for all

analytes. QA/QC analyses for analytes such as pH and grain size include only a duplicate analysis. Table 2-4 should be modified to indicate the performance and frequency of duplicate analyses where appropriate and to eliminate the reference to MS/MSD where appropriate.

The method reference for ammonia in sediment is incorrectly listed as "Modified EPA 310.1." The correct method reference (as indicated in Table 2-1) is "Modified EPA 350.1." The ammonia method reference in Table 2-4 should be corrected.

The method reference for Hydrogen Sulfide is missing from this table. It should be added to correspond to the reference provided in Table 2-1.

p. 2-36, Table 2-4

Footnote 7 indicates that the method reference for ammonia for the natural attenuation analysis is EPA 350.2. However, Footnote 4 from Table 2-1 list that method reference as EPA 350.4. This discrepancy should be corrected in both sets of footnotes as appropriate.

Appendix B

Currently the procedure for measuring free product thickness is only briefly described in the Work Plan. Please include an SOP for free product thickness measurement.

REFERENCES

Bowers, T.S., Beck, B.D., and Karam, H.S. 1994. *Assessing the Relationship Between Environmental Lead Concentrations and Adult Blood Lead Levels.* Risk Analysis 14:182-189.

USEPA CLP, 1995, Statement of Work for Inorganic Analysis, Multi-Media, Multi-Concentration, ILM04.0

USEPA CLP, 1994, Statement of Work for Organic Analysis, Multi-Media, Multi-Concentration, OLM03.1

USEPA, 1983, Methods for Chemical Analysis of Water and Waste

USEPA, 1986, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, SW-846

USEPA, 1992, Risk Assessment Guidance for Superfund Supplement No. 1. EPA Publication 9285.7

USEPA, 1996, *Recommendations of the Technical Review Workgroup for Lead for an Interim Approach to Assessing Risks Associated with Adult Exposures to Lead in Soil.*