



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 1
JOHN F. KENNEDY FEDERAL BUILDING
BOSTON, MASSACHUSETTS 02203-0001

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NSB NEW LONDON
5090.3a

May 21, 1998

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: Sampling and Analysis Plan for Area A Downstream/OBDA (Site 3), Naval Submarine Base New London, Groton, Connecticut, April 1998

Dear Mr. Evans:

I am writing in response to your request for EPA to review the Sampling and Analysis Plan for Area A Downstream/OBDA dated April 1998. This Sampling and Analysis Plan (SAP) describes the approach to further characterize the horizontal and vertical extent of contamination that exceed the remedial goals set forth in the Record of Decision (ROD). Detailed comments are provided in Attachment A.

Based on the analytical results from the Remedial Investigation and Feasibility Study and the additional results proposed in this SAP, what will the excavation approach be if all sediments samples in a particular surface water body exceed the remedial goal? Will the entire area be excavated?

Throughout the document there is discussion of field screening with respect to using immunoassay techniques and the confirmation of these results by off-site analysis. Instead of referring to off-site analysis, field screening confirmation should be referred to as to analytical methods performed in a fixed laboratory.

Please follow the EPA Region I New England Immunoassay Guidelines published in October 1996 (*see* references at the end of this memorandum). If you would like a copy of these Guidelines, please let me know.

In the Feasibility Study the approach for developing Preliminary Remedial Goals (PRGs) is discussed and there are different PRGs for pond and surface water sediments versus streambank soils so this SAP should clearly define soils and sediments.

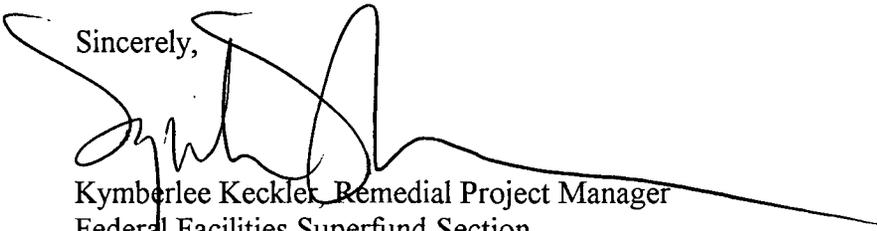
The method for the on-site immunoassay analysis for DDT allows a visual comparison of color change, but recommends the use of a colorimeter or a spectrophotometer for more accurate color comparison. EPA prefers that a colorimeter or a spectrophotometer be used for the field analysis.

Throughout section 2 of this Sampling and Analysis Plan the site is referred to as "OBDA" instead of Area A Downstream/OBDA or Site 3. This SAP encompasses more than the OBDA. The introduction and some of the other sections of the SAP appropriately identify the site. Please correct Section 2 and other sections as needed so that the text consistently identifies the site as Area A Downstream/OBDA (Site 3).

Although limited data exist, this SAP states that the data in the FS indicate that the vertical extent of contamination is no greater than 4 feet. However, the FS acknowledges uncertainty in the vertical and horizontal extent of contamination. The FS presents the contaminant volume estimates in Appendix B. The depth of contamination is *assumed* to be the following: Upper Pond is 3 feet, Lower Pond is 3 feet, stream 1 is 1.5 feet, stream 2 is 1 foot, stream 3 is 0.5 foot, and OBDA is 1.5 feet. Since the vertical extent of contamination is assumed to be 3 feet in both Upper and Lower Ponds and this SAP does not propose to collect samples other than by hand augering at a maximum depth of 2-3 feet, there may still be data gaps for the vertical extent of contamination after the proposed Phase 1 samples are collected. EPA recommends that the RI be reexamined to evaluate the number of samples that were collected at depths greater than 3 feet. The Phase 1 and Phase 2 proposed sampling should be reevaluated to consider adding some deeper samples in areas where the deepest RI sample exceeds the remedial goal.

I look forward to working with you and the Connecticut Department of Environmental Protection toward the cleanup of this site. Please do not hesitate to contact me at (617) 573-5777 should you have any questions.

Sincerely,



Kimberlee Kecklet, Remedial Project Manager
Federal Facilities Superfund Section

Attachment

cc: Mark Lewis, CTDEP, Hartford, CT
Jeff Sullivan, NSBNL, Groton, CT
Patti Lynne Tyler, USEPA, Lexington, MA
Jennifer Stump, Gannett Fleming, Harrisburg, PA
Corey Rich, Brown & Root, Pittsburgh, PA

ATTACHMENT A

<u>Page</u>	<u>Comment</u>
p. 7, §2.2, ¶2	<p>The last sentence states that the distance between sampling location will be determined at the time of sampling based on field locations. The next paragraph states that sampling will be conducted at 1 foot intervals to total depths of 3 feet. Please clarify.</p> <p>The reference to off-site analysis should be revised to read analysis performed in a fixed laboratory to avoid confusion.</p> <p>The last sentence in the fourth paragraph in this section mentions “soil and sediment samples at greater than 4 ft. below ground surface (bgs) cannot be collected due to limitations of the hand sampling method that has been proposed.” Limiting the analysis to 4 feet may not measure contamination levels at depth. It is important to try to remove all sediments and soils that pose a risk to either human health (e.g., construction worker scenario) or the environment. Complete removal of sediment and soil contamination will eliminate the need to assess contaminant migration.</p> <p>The fifth paragraph states that 150 field screening samples will be collected and analyzed during a ten day period. This seems longer than necessary based upon the Region I-New England Immunoassay Guidelines that indicate that 35 to 200 samples can be screened per person per day.</p>
p. 9, §2.3	<p>Modify the first sentence to read, “ To assist with developing an approach and targeting areas, we have broken down the Area A Downstream.....”</p>
p. 9, §2.3.1, ¶2	<p>Six sediment samples will be collected in the pond. The red and green sample locations depicted on Figure 2-2 and Table 2-2 do not match the sample locations described in this paragraph. Samples collected adjacent to the pond should be collected at depths similar to those collected from the pond.</p>
p. 12, §2.3.6	<p>Based on sampling results at SDS313 and exceedances of DDTR, please include an additional sediment sampling location here and two surface soil sampling locations adjacent to this location.</p>
p. 13, §2.3.8, ¶2	<p>Two sediment samples will be collected from SD-7. Figure 2-3 only depicts one sediment sample at this location. Please correct.</p>

p. 15, §3.0 Sample preparation during field screening using immunoassay techniques should record the kit lot numbers, the expiration dates, and the ambient temperatures of the tests (U.S. EPA, 1996).

Owing to the the high organic carbon content of these soils, the moisture content should be adjusted so that it will not affect the extraction efficiency during the immunoassay technique.

Figure 2-1 This figure presents the sample locations that exceed remediation goals. The key explains that sample locations where concentrations were detected below “PRGs” have a gold box around the sample icon. The gold box actually corresponds to sample locations where concentrations of DDTR are below the remedial goal. For example, the concentration of lead at 3SD2 exceeds the lead remedial goal, but 3SD2 has a golden box around it with a pink dot next to it. The pink dot represents that only the metals exceed the remedial goal. Please correct.

Figure 2-2 This figure is entitled “Proposed Soil and Sediment Sampling Locations.” It is not clear how the locations depicted on Figure 2-2 correspond to the samples listed in Table 2-2 . For example, thirteen sample locations are presented on Figure 2-2 in or adjacent to OBDA Pond, yet Table 2-2 lists 10 sample locations. Six locations are described on Table 2-2 as being locations in the OBDA Pond while 8 locations are depicted on Figure 2-2 as being in OBDA Pond. Please correct.

Table 2-2 This table summarizes the proposed Phase I soil and sediment samples. One of the columns in the table is entitled “Off-site No. of Samples.” It is not clear what is meant by offsite. Are these split-samples that will be sent to a fixed laboratory for analysis? Please explain and clarify in the SAP.

p. 19, § 4.1.1, ¶1 The second sentence lists the types of QA/QC samples that will be analyzed. However, this list does not match the descriptions of the types of QA/QC samples described in the other paragraphs of Section 4.1.1. The second sentence should be modified to include split samples, matrix spike/matrix duplicates and temperature blanks. The descriptions should be expanded to include field blanks.

p. 19, § 4.1.1, ¶3 The text indicates that split samples will be taken at a minimum frequency of 10% (or 1 per every 10 samples). However, Table 2-2 appears to indicate that split samples will be collected at a frequency of 1 per every 5 samples, or 20%. Please correct.

p. 20, § 4.1.1

The text on this page indicates that equipment/rinsate blanks will be collected at a frequency of 1 per every 20 samples. EPA recommends that equipment/rinsate blanks be collected either at this frequency or 1 per day, whichever is more frequent.

Appendix B

This appendix provides the methodology for the Envirogard DDT in Soil Immunoassay on-site analysis. However, only the odd-numbered pages (3,5,7) were provided in the appendix. Since an incomplete copy of the methodology is provided, a complete review was not possible.

The Envirogard DDT in Soil Immunoassay on-site analysis is a qualitative or semi-quantitative field test. The procedure results in a color change and the color intensity of the samples are compared to those of known concentration. The method allows for a visual comparison of the color change, but recommends the use of a colorimeter or spectrophotometer for more accurate color comparison. Therefore, EPA recommends the use of a colorimeter or spectrophotometer for use in this project.

REFERENCES

U.S. Environmental Protection Agency Region I New England. 1996. Immunoassay Guidelines for Planning Environmental Projects.