



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION I

J.F. KENNEDY FEDERAL BUILDING, BOSTON, MASSACHUSETTS 02203-2211

N00129.AR.000250
NSB NEW LONDON
5090.3a

September 26, 1994

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: Review of the draft Site Inspection Report for Pier 33 and Berth 16/Former Incinerator at the Naval Submarine Base in Groton, CT

Dear Mr. Evans:

I am writing in response to your request dated July 18, 1994 for EPA to review the draft Site Inspection ("SI") Report for Pier 33 and Berth 16/Former Incinerator at the Naval Submarine Base in Groton, CT. EPA's primary concerns relate to the need to proceed to a Remedial Investigation ("RI") and the use of risk assessments at this stage of the investigation to conclude that no threats to human health or the environment exist.

First, EPA is concerned that the Navy is considering a recommendation of "No further action" for Pier 33 (*see* page 139). EPA believes that the reported elevated levels of metals (including lead) in sediments at both Pier 33 and Berth 16; concentrations of PAHs and metals above ARARs or TBC values in Berth 16 ground water samples; and elevated concentrations of BTEX in several soil-gas sample locations, demonstrate the need to proceed with a RI. The RI should include additional sampling to evaluate the nature and extent of site contaminants. Consequently, it is premature to conclude that no further action is warranted because the risk calculated is based on an insufficient number of samples and samples taken away from source areas. Moreover, suspected sources at each site have not been identified nor have the nature and extent of contamination been adequately delineated.

The contamination at the Pier 33 and Berth 16/Former Incinerator cannot be dismissed as insignificant because the conclusions are based on data that are insufficient to fully characterize each site. The data collected indicate that contamination is present and possibly widespread at each site. The SI would benefit by incorporating findings from the quay wall investigations and focusing on delineating sources and contaminated areas. For example, lead detections in borings at Pier 33 appear to follow the storm sewer system or the former acid trench, yet the role of these systems as source or migration pathways has not been evaluated. As a result, EPA concurs that additional sampling and analysis in the RI is required to determine both the source and extent of the lead contamination.



Second, a risk assessment at this point in the investigation is useful only as a baseline screening to identify contaminants of concern. A risk assessment cannot be used to dismiss areas of contamination from further study at this time because they have not been fully characterized. Any attempt to do so would subvert the objective of the investigation.

I look forward to working with you to include these comments in the revised SI and to reviewing the work plan for the RI. Please do not hesitate to contact me at (617) 573-5777 should you have any questions or wish to arrange a meeting.

Sincerely,

A handwritten signature in black ink, appearing to read 'Kimberlee Keckler', written over a horizontal line.

Kymerlee Keckler, Remedial Project Manager
Federal Facilities Superfund Section

Attachment

cc: Mark Lewis, CT DEP, Hartford, CT
Andy Stackpole, NSBNL, New London, CT
Rona Gregory, USEPA, Boston, MA
Mary Sanderson, USEPA, Boston, MA
Patti Tyler, USEPA, Boston, MA
Dale Weiss, TRC, Lowell, MA

ATTACHMENT A

I. Specific Comments on Pier 33

| <u>Pages</u> | <u>Comment</u> |
|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pages 82 to 86, Table 4-3 | <p>It is unclear whether the values given on page 86 presented as ppm should be ppb (as stated in Table 4-1). Additionally, it appears that the values should be labelled as TCLP results.</p> <p>The Table should clarify which analyses are TCL/TAL, mass-analysis, and TCLP.</p> |
| Page 88, ¶2 to 89, ¶1, Section 4.4.2 | <p>It is inappropriate to dismiss the TCLP lead levels that are above TBC at six different locations at the site. Although the lead TBC exceedances detected by TCLP analysis appear to reflect elevated lead levels along the storm sewer system and along the former acid trench area, it is not clear whether the lead contamination could be attributed to these sources or to the NSBNL. Additional sampling may serve to elucidate this boundary.</p> <p>Attempting to dismiss Toxic Characteristic Leaching Procedure ("TCLP") data based on inconsistencies with mass-analysis results in the soils is inappropriate. Moreover, the TCLP seems to indicate that lead in the soils is highly mobile.</p> |
| Page 89, ¶1, Section 4.4.2 | <p>The first line incorrectly states that the TBC for TCLP lead at the site is 50 ppb, and should be corrected to 15 ppb.</p> |
| Page 137, Section 6.1.1 | <p>Naphthalene was detected at greater than three times the ARAR at 19MW4. It is possible that nearby stained soils or the UST located at the southern end of Building 175, may have acted as source(s). The RI should evaluate whether the soils are a source of naphthalene.</p> <p>Petroleum contamination was observed during installation of test borings (19TB1, 19TB2, 19TB4), monitoring wells (19MW2, 19MW3, 19MW4), and sampling of many soil gas points. The possible relationship of these data to the soils containing petroleum hydrocarbons discovered during a subsurface investigation performed for replacement of the quay wall in the fall of 1989 should be discussed, including any implications for contaminant migration.</p> |
| Page 138, Section 6.1.1 6th bullet: | <p>The concentration of lead detected (85,600 ppm) indicates a need for a more thorough evaluation of the potential risks in a RI that all site contaminants pose to human health and the environment.</p> |

Page 138,
Section 6.1.1
7th bullet:

The discussion of ground water quality should be revised to reflect the data presented in Table 4-4, page 92, that indicate exceedances of TBC levels for naphthalene and phenanthrene in 19MW4 and phenanthrene in 19MW3. The discussion should address the possible correlation of these exceedances with the area delineated on Plate 1 that is located at the southwestern corner of building 175 and includes both 19MW3 and 19MW4. Although ARARs have not been exceeded, the SVOCs detected in 19MW3 and 19MW4 continue to be contaminants of concern.

Page 139,
Section 6.1.2
1st bullet:

Although a risk assessment may be useful for establishing contaminants of concern, it cannot be used to dismiss an area of contamination from further study at this time because the area has not been fully characterized. Data from soil gas, soil borings, and monitoring wells, indicate elevated levels of VOC, TPH, SVOC, pesticide, and inorganic compounds in the soil, sediment, and ground water at various locations throughout Pier 33. Owing to the widespread contamination and the exceedances of TBC and ARARs levels, it appears that the contamination is significant and warrants additional sampling and analysis in a RI to delineate the extent of such contamination.

Plate 1

Plate 1 should be amended to include VOC concentrations from soils.

If the area at the southwest corner of Building 175 has been delineated as a potential area of concern, it should be discussed in the text.

II. Specific Comments on Berth 16/Former Incinerator

Page 69, Figure
3-11; Page 97,
Figure 4-3; and
Plate 2

In Figure 4-2 of the Plan of Action, test boring 20TB7 was designed to be advanced within the former dumpster washing area to investigate subsurface conditions. The figures in the SI Report, however, indicate that 20TB7 was advanced outside of that area. The location of the boring should be verified, and if moved, the rationale and ramifications of the deviation from the Plan of Action should be explained.

Although changes from the Plan of Action do not appear to significantly affect the quality of the investigatory data, they could limit our ability to either delineate the extent of contamination at each site or characterize the source area. Therefore, the relocation of test boring 20TB7 outside of the former dumpster washout area (the area originally targeted for subsurface investigation) limits any conclusions regarding that location.

The text (on page 106) indicating that the location of 20TB7 was in the area of the former dumpster washout area is not consistent with the

location presented in Figure 3-11, Figure 4-3, and Plate 2 which show the boring location south of the former dumpster washout area.

Page 76, ¶2
Section 4.3

Although the text accurately indicates that the procedures employed to establish inorganic background concentrations have been approved, the text should indicate that the proposed background concentrations have not been approved.

Page 107, ¶2

The text should discuss why a dioxin sample was not obtained from 20TB7 as proposed in the Plan of Action, Table 4-5 and page 28, ¶6, Section 4.2.2. The discussion of the substitution of 20TB4 for the dioxin sample should include a description of the thickness and extent of the ash layer.

Page 111,
Table 4-6

It is unclear whether the text on page 110 stating that the chloroform value at 20MW4 was 2 ppb, or the value presented in Table 4-6 as "< 1" is correct.

Page 139,
Section 6.2.1

The apparent ash layer/landfill encountered at 20TB4 and the former incinerator operations at the site may have resulted in ash deposition across the site. The RI should assess the extent of the ash layer and whether it is a source of contamination.

Petroleum contamination was observed during installation of test borings (20TB2, 20TB3, 20TB4, 20TB5, 20TB6), monitoring wells (20MW2, 20MW3, 20MW4, 20MW5, and 20MW7), and sampling of many soil gas points. The possible relationship of these data to the soils containing petroleum hydrocarbons discovered during a subsurface investigation performed for replacement of the quay wall in the fall of 1989 should be discussed, including any implications for contaminant migration.

With the exception of one well (20MW7 had lead at 6 ppb), lead levels above the TBC (15 ppb) were detected at 20TB1, 20TB2, 20TB3, 20TB4, 20TB5, 20TB6, 20TB7, 20MW2, 20MW4, 20MW5, 20MW6, 20SD1, and 20SD2. These results should be discussed in the text.

The text should discuss the detection of dioxin at the 2 to 4 foot depth in 20MW6 and the possibility of the orange-black ash from the same depth as a potential source.

Page 140, ¶9,
Section 6.2.1
5th bullet

The Navy should generate screening levels for dioxin that incorporate site-specific considerations. Since various factors used during a risk assessment may vary substantially from site to site, application of levels used at other sites may not be appropriate.

The well identifier in the text should be revised from "20MWG" to "20MW6".

Page 141,
Section 6.2.1
2nd bullet

The second sentence, which indicates that contaminants are related to recent site activities, is not consistent with text on page 110, ¶3 that states that, based on the data presented, the source of the inorganics is not clear.

Page 141,
Section 6.2.1
3rd bullet

The ground water discussion should be revised to reflect TBC exceedances indicated in Table 4-6, page 111. Table 4-6 indicates that acenaphthylene levels exceeded TBC values in 20MW3 and 20MW4 and fluorene and phenanthrene levels exceeded TBC values in 20MW5. In addition, as presented on page 115, ¶1, lead levels at 20MW6 exceeded Connecticut Department of Health maximum contaminant levels and EPA Action Levels. This indicates that ground water quality is generally not good and that soil contaminants may be adversely impacting ground water quality. Based on these exceedances, a more thorough evaluation of impacts to human health and the environment is warranted before concluding that no further action is required.

Page 141,
Section 6.2.2
2nd bullet

Additional sampling and analysis of subsurface soils and ground water should address the elevated VOC, SVOC, and dioxin results, in addition to lead contamination.

Page 141,
Section 6.2.2
4th bullet

Because elevated concentrations of certain contaminants were detected in sediments, soil, ground water, and soil-gas samples, a quantitative risk assessment should be performed in a RI to assess exposure from all media, not just subsurface soils. This evaluation should include an assessment of leaching from the soils to site ground water quality and its effect on human health and the environment.

Plate 2

Plate 2 should be amended to include VOC concentrations from soils.