



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION I

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

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NSB NEW LONDON  
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March 5, 1993

Deborah Stockdale, RPM  
U.S. Department of the Navy  
Northern Division  
10 Industrial Highway  
Code 1823, Mail Stop 82  
Lester, PA 19113-2090

RE: Time Critical Removal Action at Building 31, Naval Submarine  
Base - New London, dated January 28, 1993.

Dear Ms Stockdale:

Attached you will find both general and specific comments on the proposed sampling plan submitted to EPA for review. The comments have been numbered for future reference. In addition, EPA has included in Attachment B, a series of suggestions for the Health and Safety Plan.

As a general comment, the sampling plan appears thorough enough to develop an action memorandum. However, the Navy should note that the abbreviated sampling plan relies too heavily on results of the Toxic Characteristics Leaching Procedure (TCLP) analyses. The transmittal letter indicates that excavation may not be a remedial measure due to concerns about the integrity of the building structure. If the contaminated soils/material are not going to be excavated, then large number of TCLP analyses would not be appropriate.

In general, the TCLP is used only to determine the disposal requirements for waste and will not provide useful results for characterization of the site. The Navy should modify the sampling plan to include additional TCL/TAL analyses in order to adequately determine the nature and extent of contamination within the soils and groundwater.

The Navy should gather the necessary data and submit the action memorandum describing the actions to be taken for the contaminated soils/materials beneath Building 31. This action can be covered under Section 300.415 Removal Action under the March 8, 1990 Final Rules of the National Contingency Plan (NCP). The Navy must comply with Section 300.415 of the NCP which specifies the conditions to be satisfied to perform a time-critical removal action. Please be advised, as specified in the Superfund Removal Procedures - Action Memorandum Guidance, December 1990 (EPA/540/P-90/004), the Action Memorandum must be signed prior to initiating on-site removal actions.



In lieu of preparing a Proposed Plan and Record of Decision for this removal, compliance with the aforementioned section will be considered for this particular removal action. Particular attention should be paid to Section 300.415(m), regarding community relations in removal actions.

You should be advised that a removal action for this particular source is considered appropriate. You should consult with this office and the CT DEP prior to initiating any other removal actions at this site.

If you have any questions regarding these comments, you should feel free to call me at (617) 573-9614.

Sincerely,



Andrew F. Miniuks, Remedial Project Manager  
Federal Facilities Superfund Section

Attachments

cc. William Mansfield, NSBNL  
Charles Porfert, EPA  
Dale Weiss, TRC  
Paul Jameson, CTDEP

## Attachment A

### Abbreviated Field Sampling Plan

#### General Comments

1. Measure and relate groundwater level to tidal induced water level elevations. A continuous water level recorder should be used to establish background variations.
2. Consider installing a permanent groundwater monitoring well along the exterior of Building 31, and west of B-10.
3. Adjust the proposed sampling and analysis program to include a greater number of samples subject to TCL/TAL analysis. The proposed program is heavily dependant on TCLP analysis, which is used only to determine the RCRA classification of waste material. TCL/TAL analyses must be utilized to complete site characterization. Due to limited available information regarding historical use of Building 31 and previous analytical results, data gaps exist with respect to the presence or absence of VOCs, SVOCs, and pesticides/PCBs.
4. Investigate the structural integrity of the building as this could affect the corrective action selected. The investigation should describe the buildings foundation/support system.
5. Calibrate monitoring instruments daily during field activities.

### Specific Comments

Page 1-4 ¶1

1. Specify the "TCLP regulatory levels" in the text or in a table.
2. Clarify the analytical parameters of the TCLP analysis performed on soil samples from Building 31. This paragraph states that Table 1-1 presents the analytical results for the sample locations illustrated on Figure 1-4. Table 1-1 presents only concentrations of lead detected in the TCLP analysis.
3. Present a history of the Building 31 site. Lead is a major component of batteries which were reported to have been stored in this building, however, the building was also used as a hazardous materials storage building. Other potential contaminants commonly present in association with a release from areas used for the storage of batteries include arsenic, calcium, strontium, tellurium, and tin.  
  
The contaminants associated with past or present uses of the building must be the focus in determining the sampling parameters.
4. Present depth and sample locations of the samples listed in Table 1-2.
5. Clearly state which regulatory standards are being considered in evaluating contaminants of concern and provide discussion as to the appropriateness of these standards to this investigation. Without such a citation and discussion, it is not possible to determine if appropriate standards are being considered.
6. Provide a preliminary identification of ARARs. This would illustrate which regulatory standards were previously utilized as well as which standards are being considered for the purposes of determining data quality needs for the proposed investigation.

7. Clearly state the analyte list for all samples collected from this site.
- Page 1-4 ¶2 8. Present the location of the discharge pipe for the catch basin and floor drains. Sampling of the catch basin and discharge pipe area should be added to the field sampling plan.
9. Expand in the action memorandum the discussion of the catch basin and the floor drains. If these features of the building were found to be cracked or of questionable integrity, contaminants may have leaked from these features into the subsurface and therefore these drains could be the source of subsurface contamination. Clearly illustrate these features on Figure 1-4 and discuss their integrity and their potential relationship to detected contamination.
- Page 1-6 10. Modify Figure 1-4 to clearly identify areas in which stained soils have been observed, and the locations where samples from Table 1-2 were taken. This information is necessary to evaluate the rationale used in selecting proposed sample locations. This information would also help determine the adequacy of the samples which have previously been collected and analyzed in determining the extent of contaminated soils.
- Page 2-4 ¶1 11. Characterize the mobility of metals in the subsurface during the soil sampling efforts. Include in the subsurface soil and groundwater sampling events the measurements of Eh, pH, TOC and Cation Exchange Capacity.
- Page 2-4 ¶3 12. Modify the workplan to ensure that no well screen will be installed longer than 10 feet.
13. Perform a Slug Test in the Building 31 area and include a corresponding SOP in the Appendix.
- Page 2-4 ¶5 14. Continue to perform well development until pH, Eh and temperature have stabilized over three excavated well volumes as stated in Section 8.5 of the Compendium (EPA, 1987).

- Page 2-5 ¶1 15. Reference or describe the procedures to be used to determine the water level measurements.
- Page 2-5 ¶2 16. The procedures stated appear to be for the removal of wells installed in boreholes. The field sampling plan must provide detailed removal procedures for driven wellpoints.
- Page 2-5 ¶3 17. Modify the sampling approach to include the potential expansion of the sample grid if contamination is detected.
- Page 2-5 ¶4 18. Orange survey marks at wells should not be painted as this may introduce contamination.
- Page 3-1 ¶4 19. The text states that groundwater sampling will be conducted in accordance with NUS SOP SA-1.1, Section 5.0. The SOP provided is abbreviated and contains select pages from the complete SOP. The selected pages should include descriptions of the procedures and equipment used for groundwater sampling.
20. Propose a waiting period, based on area specific hydrogeologic considerations, between the well development and the initial sampling.
- Page 3-6 ¶1 21. Include turbidity analysis in the list of stabilization parameters.
- Page 3-6 ¶4 22. Groundwater samples from all monitoring wells/well points must be analyzed for full TCL/TAL plus cyanide analysis during the first round of sampling. The work plan proposes three samples to be subject to full TCL/TAL plus cyanide analysis during the first round of sampling, then proposes to analyze all other samples for Appendix VIII metals only. Due to the limited historical information regarding specific uses of this building limitation of the parameter list for chemical analysis does not seem justified at this point of the investigation. After analysis of the first round of groundwater samples collected it may be appropriate to reduce the analytical parameter list for the second round of samples collected.
23. Identify the background monitoring well.

Page 3-7 ¶3

24. Expand the proposed subsurface soil sampling and analysis program to include full TCL/TAL plus cyanide analysis for a minimum of two samples per boring. These samples should include one collected at the water table and one collected from the interval showing the highest total VOC concentrations, as determined by field screening.
25. Add subsurface soil borings at the exterior locations where surface samples have been planned. Also, include three surface and subsurface samples to the western exterior side of Building 31, parallel to those on the exterior eastern side. Lead contamination has already been identified at depth, and the proposed sampling plan does not include any exterior samples on the western, downgradient side of Building 31.
26. Propose subsurface soil samples for analysis of engineering properties including gradation, percent moisture, compaction, permeability and strength. These analyses will be necessary in evaluating the implementability of the capping alternative being considered for this site.

Page 3-8 ¶2

27. Consider X-Ray Fluorescence (XRF) field screening to optimize the overall number of analytical samples.

Page 3-11 ¶3

28. The text defines field duplicates soil samples as "a single sample split into two portions." Since field duplicates soil samples are for evaluating the variation of analytes in soil, the definition of such duplicates needs to reflect that they are two samples collected independently at a sampling location. This comment also applies to footnote 5 in Table 3-1.

Page 3-12 ¶1

29. The text states that of the equipment blanks collected daily only samples of every other day will be analyzed and the remaining samples will be on "hold." Provide the rationale for this activity and explain the influence of holding times on samples not analyzed.

30. Field instruments need to be calibrated at the beginning and at the end of the day to check for instrument drift if the resulting data are to be reported. Such calibration is not required if the data are not to be reported to EPA and is so stated in the text.

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## QUALITY ASSURANCE PROJECT PLAN

### General Comments

31. Provide within the QAPP more details concerning precision, accuracy, and quantitation limits. The QAPP does not present any quantitation limits and the discussions concerning precision and accuracy are vague and require clarification.
32. Provide greater detailed information on the data validation procedures. The QAPP, as currently written, gives only a generic reference to the validation procedure to be used. More specifically, the QAPP states that 15% of the environmental samples will be validated by EPA validation procedures. The QAPP has not specified how the validation of 15% of the samples will affect the remaining 85% of the samples.

### Specific Comments

- Page D-5      33. Footnote No. 2 of the table states that equipment blanks will be collected at a frequency of "1/day/media/analysis but analyzed every other day unless positive detection are recorded." The Navy should be cautioned with respect to archiving blanks.

The problem with the approach of holding blanks is that by the time the analysis of a blank indicates positive detection, the holding time of the archived blank may have expired. According to EPA Region I data validation guidelines for organics, positive results and sample quantitation limits will be qualified as estimated if the sample is not extracted within seven days of collection. If the sample holding time is grossly exceeded, the sample results may be rejected.

The reason equipment blanks are collected is to determine if cross contamination has occurred as a result of sampling and to quantify the contamination. This will not be possible if the blank data is judged to be invalid due to holding time exceedances. It is recommended that all equipment blanks be analyzed.

Page D-9

34. Section 4.2, Project Organization, lists the key individuals involved in the project and describes their functions but does not present the line of authority. According to QAMS-005/80, this section must also present the line of authority for the key individuals, this can most effectively be done by presenting an organization chart for this project.

Page D-11

35. The last sentence in the introduction of this section states; "That the purpose of this section is to address the data quality objectives in terms of the (PARRCC) parameters, quantitation and detection limits, field blanks, rinsate blanks, duplicates, and bottlenecks cleanliness." The section is then subdivided into subsections to discuss each topic presented in the sentence with the exception of quantitation and detection limits. Quantitation and detection limits are not discussed or presented in any section of this QAPP.

Revise this section to present a thorough discussion of the analyte and method specific quantitation and/or detection limits. This is a major oversight and must be corrected.

Page D-11

36. Section 5.2.1 presents the definition and calculation for precision, but does not present any precision objectives. The section states that the internal control limits for precision are three times the standard deviation of a series of RPD or range values.

This is insufficient information for EPA to determine if this internal control limit will meet or exceed the precision requirements of the referenced CLP methodologies or to establish acceptable precision objectives for the referenced SW-846 or 200 Series methodologies the Navy proposes to utilize.

Revise the QAPP to clearly define how many samples are in a series and provide control charts from the laboratory for the referenced methodologies so that EPA may evaluate the precision the laboratory is currently achieving.

Page D-12

37. Section 5.2.2 presents the definition and calculation for accuracy, but does not present any accuracy objectives. The section states that the control limits for accuracy are set at the mean plus or minus three times the standard deviation of a series of percent recovery values. This is insufficient information for EPA to determine if this control limit will meet or exceed the accuracy requirements of the referenced CLP methodologies or to establish acceptable accuracy objectives for the referenced SW-846 or 200 Series methodologies NUS proposes to utilize.

Revise the QAPP in order to clearly define how many samples are in a series and provide control charts from the laboratory for the referenced methodologies so that EPA may evaluate the accuracy the laboratory is currently achieving.

Page D-16

38. The fourth sentence in Section 6.3 states that contract required quantification limits are presented in Table 3-2. Table 3-2 does not include contract required quantification limits. Clarify this statement and provide the contract required quantification limits.

39. The text states that the analytical data will be validated using EPA procedures. Validation needs to be performed according to Region I Laboratory Data Validation Functional Guidelines For Evaluating Organic Analyses; 2/1/88; modified 11/1/88; and Region I Laboratory Data Validation Functional Guidelines For Evaluating Inorganics Analyses; 6/13/88; modified 2/89.

40. The third paragraph of section 10.0 states that 15% of the total number of environmental samples will be validated using EPA procedures. The QAPP must present a more specific reference of the EPA validation procedures NUS intends to use. The following EPA Region I data validation guidelines should be utilized:

- Region I Laboratory Data Validation Functional Guidelines for Evaluating Organics Analyses. November 1, 1988; and
- Region I Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analyses. February, 1989.

The data validation guidelines referenced above are intended to be used for analytical data produced utilizing CLP protocol and quality control requirements. These guidelines, if implemented, will require modification to accommodate NEESA QA requirements as well as the SW-846 and 200 Series methodologies.

The data validation scheme presented in Section 10.0 of the QAPP requires more detail. As it is presented now, it is not clear how the validation of 15% of the samples will affect the remaining 85% samples.

Describe the rationale for choosing 15% of the total number of samples to validate and any corrective actions which will be performed on the remaining 85% of the samples if the validation procedure discovers non-conformities with the data.

If the Navy intends to qualify all the data obtained during this investigation based on the validation of 15% of the data, then describe how the Navy intends to determine that the non-conformities found are systematic throughout all the samples and not an isolated problem.

## Attachment B

### Appendix C - Health and Safety Plan

#### General Comments

The Health and Safety Plan (HASP) is generally a comprehensive and well-organized document however, the following general and specific comments have been noted and should be considered:

- There is no discussion on potential hazards associated with the physical facility (Building 31) where work will be performed (e.g., adequacy of illumination, egress routes, and ventilation);
- There is no discussion on heat or cold stress; and
- Level C decontamination procedures are not detailed.

#### Specific Comments

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|---------------|---|
| Page C-3 §2.0 | 1. The hazard assessment section should include a discussion on potential exposures to sample preservation and decontamination solutions. Decontamination solutions are mentioned in Section 6.2 but the HASP does not include any discussion on sample preservation chemicals. |
| Page C-3 §2.3 | 2. Several physical hazards are identified in this section. Additional hazards that should be considered include heat and/or cold related stresses or dangers associated with Building 31.  |
| Page C-7 §4.1 | 3. The HASP refers to "steel-toe hard sole work boots." The Navy should note that OSHA (29 CFR1910.120) requires steel-toe, <b>steel shank</b> boots for hazardous waste operations. This distinction should be made in order to clarify this requirement.                      |

Page C-7 §4.1.3

4. The personal protective equipment (PPE) listed in this section to be used during soil sampling does not include coveralls. Coveralls should be included to prevent contamination of street clothes with potentially lead-contaminated soils.

Page C-7 §4.1.4

5. The HASP indicates that PVC coveralls will be substituted if tyvek becomes saturated during groundwater sampling.

The more protective coveralls should be worn at onset of sampling operations that have the potential to result in the saturation of work clothes. This action would be consistent with the criterion for PVC coveralls presented in Section 4.2 of the HASP.

Page C-8 §4.3.2

6. This section indicates that half-face or full-face respirators will be worn "anytime dusty conditions are observed and these emissions cannot be suppressed with water." This implies that upgrade will not be required until visible dust is observed.

The Navy should consider modifying this section to directly parallel Section 3.2 of the HASP which appropriately requires air monitoring if water spray is not used to control particulate emissions and sets exposure limits. In addition, the Navy should note that OSHA allows for the use of half-face respirators but the full-face respirator offers greater protection over the half-face respirator.

Page C-12 §6.1

7. The presentation on personnel decontamination does not include an outline of Level C decontamination procedures. The Navy should consider modifying the HASP to include a step-by-step description of the decontamination process such as that presented in EPA's Standard Operating Safety Guides, June 1992.

Page C-13 §7.0

8. The HASP does not indicate that subcontractor personnel are required, in addition to their 40-hour training, to have three days of supervised field training, as is required by OSHA 29 CFR 1910.120 (e)(3). The Navy should consider modifying this section to include this requirement and maintaining certificates documenting this training.

Page C-13 §7.2

9. It is indicated that site-specific training will be provided only once and personnel who do not attend will not be permitted to perform work at the site. It is unclear what allowances, if any, will be made for the involvement of new or alternate team members or for site visitors.

Page C-20 §9.2

10. The discussion on the contamination reduction zone does not clearly indicate where the personnel decontamination stations will be located (e.g, various locations within Building 31). A description of where the personnel and equipment decontamination stations will be situated in relation to the support zone should be added.

Page C-21 §10.1

11. The HASP prohibits entry into confine spaces. Although buildings do not necessarily constitute confined space by definition, hazards such as limited ventilation and restricted escape routes may exist.

The Navy should consider adding a provision to the HASP requiring site personnel to be familiar with escape routes and to ensure that these routes are all clear. In addition, the HASP should emphasize that buildings without sufficient illumination or ventilation should not be entered.

Page C-24 §11.10

12. Building 20 is identified as the location of the nearest telephone. The Navy should consider referencing Figure 11-2 which identifies the location of Building 20.

Page C-26 Fig 11-1 13. The Lawrence and Memorial Hospital (New London) is identified as an additional medical facility. However, no directions from the site to this hospital are provided. The Navy should consider providing the route to this hospital in the HASP.