UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II
JACOB K. JAVITS FEDERAL BUILDING
NEW YORK, NEW YORK 10278

APR 0 1 1991

Mr. Gerald F. Hoover
Project Engineer, Code 142
Environmental Restoration Branch
U.S. Navy, Northern Division
Naval Facilities Engineering Command
U.S. Naval Base, Bldg. 77 Low
Philadelphia, PA 19112-5094

Re: Naval Weapons Station (NWS) Earle

Dear Mr. Hoover:

The U.S. Environmental Protection Agency (EPA) has reviewed the Site Investigation (SI) Workplan dated November 1989. Also, the Preliminary Assessment (PA) dated July 9, 1987 conducted by the New Jersey Department of Environmental Protection (NJDEP) was reviewed to assure that all applicable sites at NWS Earle would be evaluated. EPA recommends that the Wastewater Treatment Plant be added to the SI Workplan.

General comments are included in Attachment 1, while specific comments are included in Attachment 2. Please respond to these comments in writing to EPA, before the SI Workplan is finalized.

If you have any questions concerning this matter, please contact me at 212-264-6609.

Sincerely yours,

Paul G. Ingrisano

Paul G. Ingrisano
Project Manager
Federal Facilities Section

Enclosures

cc: Captain W.M. Migrala, Jr., NWS Earle, w/encl
J. Freudenberg, NJDEP, w/encl
R. Johnson, Weston, w/encl
D. Weeks, Versar, w/encl

ATTACHMENT 1

General Comments on the SI Workplan are as follows:

1. A list of acronyms and abbreviations should follow the List of Tables, in the Table of Contents.

2. Figure 4-1, Tables 4-1 and 4-2, and Plate I were listed in the Table of Contents, but were not in the document.

3. The "north arrow" on Figure 5-8 was misoriented by about 60° and the "north arrows" on Figures 5-11 and 5-16 were misoriented by 90°.

4. In most cases, site locations were marked only as hazy, gray patches on figures and in only a few cases were the locations labelled explicitly and pointed out. EPA has requested an analysis of historical photography from the Environmental Photographic Interpretation Center to help in determining the site boundaries. In the interim, any maps that the NJDEP or the U.S. Navy has should be utilized for this purpose.

5. The Tables summarizing the Analytical Requirements for Soil and Sediment Samples and Groundwater Samples should follow the format of the Remedial Investigation/Feasibility Study (RI/FS) Workplan.

6. Slug tests should be performed on the groundwater monitoring wells as was done on the sites for the RI/FS Workplan.

7. Test pits are recommended for locating the waste source of a site when its precise locations are unknown (Sites 6, 8 and 9).

8. The Quality Assurance Project Plan and the Health and Safety Plan should be modified accordingly. The addendums should be numbered and have the exact date (e.g. Addendum 1, April 1, 1991).

9. For several of the sites, three general deficiencies were noted in the SI Workplan:

   a. The methods for selecting sampling locations were not adequately described or may not be sufficient. If soil vapor screening is applicable (e.g., if organic contaminants are suspected), it should be used in conjunction with visual evaluation to select sampling locations.

   b. Adequate justification was not provided for the selection of target analytical compounds in the sample media. The samples from each site should be analyzed for all potential contaminants associated with that

ATTACHMENT 1

General Comments on the SI Workplan are as follows:

1. A list of acronyms and abbreviations should follow the List of Tables, in the Table of Contents.

2. Figure 4-1, Tables 4-1 and 4-2, and Plate I were listed in the Table of Contents, but were not in the document.

3. The "north arrow" on Figure 5-8 was misoriented by about 60° and the "north arrows" on Figures 5-11 and 5-16 were misoriented by 90°.

4. In most cases, site locations were marked only as hazy, gray patches on figures and in only a few cases were the locations labelled explicitly and pointed out. EPA has requested an analysis of historical photography from the Environmental Photographic Interpretation Center to help in determining the site boundaries. In the interim, any maps that the NJDEP or the U.S. Navy has should be utilized for this purpose.

5. The Tables summarizing the Analytical Requirements for Soil and Sediment Samples and Groundwater Samples should follow the format of the Remedial Investigation/Feasibility Study (RI/FS) Workplan.

6. Slug tests should be performed on the groundwater monitoring wells as was done on the sites for the RI/FS Workplan.

7. Test pits are recommended for locating the waste source of a site when its precise locations are unknown (Sites 6, 8 and 9).

8. The Quality Assurance Project Plan and the Health and Safety Plan should be modified accordingly. The addendums should be numbered and have the exact date (e.g. Addendum 1, April 1, 1991).

9. For several of the sites, three general deficiencies were noted in the SI Workplan:

   a. The methods for selecting sampling locations were not adequately described or may not be sufficient. If soil vapor screening is applicable (e.g., if organic contaminants are suspected), it should be used in conjunction with visual evaluation to select sampling locations.

   b. Adequate justification was not provided for the selection of target analytical compounds in the sample media. The samples from each site should be analyzed for all potential contaminants associated with that

site.

c. Insufficient topographic, soils, and vegetative cover information was present on the site location maps, to assess potential release and exposure paths, and consequently design a thorough sampling program.

10. Recommendation for Sampling and Assessment

Because contaminants may have migrated long distances over time, because the objectives of the proposed sampling program do not include a broad understanding of the site for its effects on natural resources, and because this investigation may be the last time these sites are studied, the National Oceanic and Atmospheric Administration (NOAA) can best discharge its trust interest by specifying a more or less separate sampling program to measure directly concentrations of toxic substances in environmental media. Because of access by NOAA resources and because of past activities in the watersheds, only Hockhockson Brook and Ware Creek need to be investigated. There are 12 specific locations that should be sampled:

Hockhockson Brook Drainage

- on western tributary near Site 28 (surface water and sediment)
- on western tributary, midstream (surface water and sediment)
- on western tributary near confluence with eastern tributary (surface water and sediment)
- on eastern tributary near Site 13 (surface water and sediment)
- on eastern tributary, midstream (surface water and sediment)
- on eastern tributary near confluence with western tributary (surface water and sediment)

Ware Creek Drainage

- on eastern tributary of Ware Creek between New Jersey Route 36 and confluence with western tributary (surface water and sediment)
- two stations downstream of confluence (surface water and sediments)
- three samples in marsh at outflow of storm drain (sediments)

Sediment samples should be analyzed for the Target Compound List (TCL), the Target Analyte List (TAL), and cyanide. The surface

water samples should be analyzed for volatile organic compounds (VOC's), TAL substances, and cyanide. Sufficient sampling of groundwater in the Ware Creek drainage is proposed in the SI Workplan, but the samples should be analyzed for VOC's, TAL substances and cyanide. (Note: the SI Workplan proposes to analyze samples for TCL substances, which includes VOC's, but TAL substances and cyanide need to be added.) These analyses will provide the most comprehensive, yet cost-effective, information about effects of the sites for the protection of NOAA resources.

- ATTACHMENT 2

Specific comments on the SI Workplan are as follows:

1. Section 5.3 - Site 1: Ordnance Demilitarization Site, Secured

   a. In addition to visual characterization, soil vapor screening should be used as a criteria in the selection of soil samples for analysis. If potential contamination is detected by these means, it may be necessary to have more than one sample from each boring analyzed.

   b. Soil samples should be analyzed for full TCL +30 compounds due to the insufficient nature of the site background information and to the waste burning activities undertaken at the site.

   c. Due to the sandy conditions in the area and the relatively shallow groundwater, it is recommended that monitoring wells be installed to determine if contamination exists, and the direction of groundwater flow.

   d. An analysis for petroleum hydrocarbons is suggested in addition to that already proposed, as diesel fuel was used to burn this site's surface on three different occasions.

2. Section 5.4 - Site 6: Landfill West of Normandy Road

   a. Describe how possible groundwater contamination will be attributed to either Site 6 or Site 17 by the placement of monitoring wells.

   b. A map showing the location of both sites 6 and 17 should be included since they are being studied together.

   c. Groundwater samples should be analyzed for the TCL and TAL compounds.

   d. Split-spoon soil samples obtained from site borings should be subjected to visual inspection and soil vapor screening in order to determine if contamination exists in this area. Samples should be submitted for full TCL and TAL analysis due to the limited information available on waste types and quantities.

   e. It is recommended that surficial soil samples be obtained in areas exhibiting visual signs of contamination.

f. A visual and soil gas inspection of the adjacent marsh is recommended. If evidence of contamination is found, samples of sediment, and possibly surface water, should be obtained for TCL compound analysis.

g. Air monitoring should be completed in and around the recreation building in order to identify any potential risk from VOC's to people using this area.

h. According to Naval personnel, prior to the mid 1970's, a sewage treatment plant which serviced the Waterfront Area was located near this location. During the May 1987 site inspection conducted by the NJDEP, HNu readings ranging from 14 to greater than 2000 ppm were obtained along the periphery of the building. Because of the sandy soil conditions and these elevated soil gas readings, it is recommended that monitoring wells be installed at this location to determine the existence and extent of groundwater contamination.

i. What happened to the contents of the landfill once the foundation was constructed?

3. Section 5.5 - Site 17: Disposal Area Behind Training Barge, Waterfront Area

a. See comments for Section 5.4, Site 6 (2.a through 2.g).

4. Section 5.6 - Site 8: Landfill East of S-186

a. Test pits and soil borings are recommended at this site.

5. Section 5.7 -Site 9: Landfill Southeast of "P" Barricades

a. A reading of 90 ppm on the HNu was obtained near the edge of the landfill during NJDEP's May 1987 PA. Readings decreased as the center of the landfill was approached. It is recommended that soil borings be taken throughout the landfill to determine the source and type of contamination present.

6. Section 5.8 - Site 12: Battery Acid Spill Site, Waterfront Area

a. Describe the size of this site, if known.

b. Because contaminants in addition to lead may be associated with battery acid spills, justification should be provided for analyzing the soil and sediment samples for only lead.

c. A description of the process to select sample locations should be included.

d. This site is currently being utilized as a supply warehouse and is asphalt covered. It is recommended that soil borings be taken to determine the presence of contamination.

7. Section 5.9 - Site 13: Defense Property Disposal Yard

a. The PA reported this as a storage area for scrap metal batteries and PCB transformers. It is unknown whether leakage from the transformers occurred at this location. EPA recommends, soil sampling be undertaken to assess the degree if any, of contamination by PCBs. Samples should be obtained for full TCL and TAL analysis. Also, a soil gas study would be helpful in determining the presence or absence of contaminants at the site.

8. Section 5.10 - Site 14: Defense Property Disposal Office Warehouse

a. A visual inspection of this site is recommended. Special attention should be paid to possible drainage pathways, and when they extend outside of the building, any stained soils along the pathway that may indicate a past release. If evidence of a release is noted, samples should be obtained for full TCL and TAL analysis.

b. The disposal method for the mercury cleaned up after the spill should be indicated.

9. Section 5.11 - Site 15: Sludge Disposal Site Near the Waterfront South Gate

a. Attempts to identify the location of this site should include a thorough visual inspection and a soil vapor survey of the suspected area.

b. When the site is identified, surface and subsurface soil samples should be obtained. These should be analyzed for TCL compounds. The installation of monitoring wells may also be required.

c. The PA recommends soil borings to be taken in order to assess the extent of contamination.

10. Section 5.12 - Site 16: Fuel Line Connecting Building C-19 and C-50

a. Explain the method that will be used in determining which locations have the highest probability of contamination.

b. This section should include a reference to the planned

soil vapor screening (Figure 5-1) and indicate how data obtained during the screening will be used.

c. The sampling scheme for the soil borings is unclear. It appears that composites of one foot of soil will be taken at each two-foot interval within the boreholes. This sampling scheme should be clarified.

11. Section 5.13 - Site 23: Paint Chip Disposal Area Adjacent to Building D-5

a. This section should include a reference to the planned soil vapor screening (Figure 5-1) and indicate how data obtained during the screening will be used.

b. Because a variety of contaminants may be present at this site, samples obtained from this site should be subjected to full TCL and TAL analysis.

12. Section 5.14 - Site 24: Closed Pistol Range

a. Describe the criteria that will be used for selecting the location and depth of the auger soil samples.

b. For Site 25, zinc and iron are also identified as possible site contaminants at the pistol range. Provide justification for analyzing soil samples for only lead and copper.

13. Section 5.15 - Site 25: Closed Pistol Range - Treated Rail Ties

a. If the results of sampling at Site 24 are going to be applied to this site, the basis for this decision should be described, and the similarity of all aspects of the two sites should be documented.

b. Table 2-1 suggests that treated rail ties are also present at Site 25, but these ties are not addressed in Section 5.15.

c. Soil samples should be taken to determine any contamination due to the treated rail ties.

d. The Plan of Action should be the same as that being conducted at Site 24.

14. Section 5.16 - Site 27: Projectiles Refurbishing Area

a. The criteria for selecting the soil sample locations at this site are not stated. Both visual inspection and soil vapor screening should be used to select the location and number of soil samples.

b. It is recommended that soil samples be obtained from more than one depth in order to vertically characterize possible contamination.

c. The PA recommends that monitoring wells will be installed to determine the extent of contamination and direction of groundwater flow. Additional soil borings should be taken to assess the degree of contamination.

15. Section 5.17 - Site 28: Waste Oil Tank

a. A status report on the closure of the waste oil tank should be provided.

16. Section 5.18 - Site 29: PCB Spill Site, Building C-16

a. During the proposed review of cleanup records, data from past cleanup sampling should be obtained and reviewed. If this information is not available, or samples were not obtained, sampling should be considered at this site during the SI.

b. A vandalized transformer, resulting in PCB's spillage, onto and into the surrounding soil, was reported in the PA for the site. Though 120 cubic feet of contaminated soil was removed from the area, EPA feels that further soil sampling in this area is necessary to determine if the soil is still contaminated.

17. Site GG Wastewater Treatment Plant

a. The accumulation of sludge from the treated wastewater, and the integrity of the drying beds, groundwater contamination and discharge of treated waste water (which is regulated under NJPDES #NJ0023540) into a local brook are the major environmental concerns at this site. EPA recommends the installation of monitoring wells to determine if there has been groundwater contamination by sludge seepage from the drying beds.

b. In addition, this sludge should be sampled as this material may contain hazardous constituents. Also, off specification herbicides and insecticides, pesticide containers which were triple rinsed, and rinse waters from cleanup operations were typically buried in separate pits at Sites 3 and 5. However, some of these wastes, particularly the rinse waters were disposed of via sewer drains in the buildings. The quantity of materials disposed of in this fashion is unknown. Other materials known to have been dumped via building sewer drains are water soluble degreasing solvents in the Fleet Support Department. It is unknown where these building drains discharge. It is recommended

that these discharge points be investigated.