STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Department of Environmental Management
DIVISION OF SITE REMEDIATION
291 Promenade Street
Providence, R.I. 02908-5767

13 June 1994

Robert Krivinskis, Remedial Project Manager
US Department of the Navy
NAVFACENGCOM- Northern Division
Code 1823, Mail Stop #82
10 Industrial Highway
Lester, PA 19113-2090

RE: draft Detailed Analysis of Alternatives Report
Site 06 - SOLVENT DISPOSAL AREA
Site 13 - DISPOSAL AREA NORTHWEST OF BLDG'S W-3, W-4, AND T-1

Dear Bob:

This Division has reviewed the above cited draft documents and has generated the enclosed comments. In particular, the Division has noted that manganese in the groundwater may be due to the geologic formation of the area and not to site related conditions. Please provide an explanation for its existence. In addition, please provide an explanation of the action or actions required when lead exceeds 15 ppb in drinking water and whether these actions do or do not apply to these sites.

Additionally, it may be useful to break out all the sites at NCBC by watershed location so that cumulative effects can be accounted for.

If you should have any questions, please call me at (401) 277-3872 extension 7142.

Sincerely,

Judith Graham

Judith Graham
Engineer

cc: W. Angell, DEM DSR
R. Gottlieb, DEM DSR
C. Williams, USEPA Region 1

ncbc613/jg

COMMENTS FOR:
DRAFT DETAILED ANALYSIS OF ALTERNATIVES REPORT
SITE 06 - SOLVENT DISPOSAL AREA
SITE 13 - DISPOSAL AREA NORTHWEST OF BLDG'S W-3, W-4, AND T-1
NAVAL CONSTRUCTION BATTALION CENTER, RI

* **General Comment.**

Please provide a list of abbreviations/acronyms at the beginning of the document. Readers of this document, particularly the public, would find it very helpful.

SITE 06 COMMENTS

* **Executive Summary, Backround**
Page ES-4, Paragraph 1.

The manganese in the groundwater may be due to the geologic formation of the area and not to site related conditions. Please provide an explanation for its existence. Also, please provide an explaination of the action or actions required when lead is in exceedance of 15 ppb in drinking water. Please explain how these actions apply or not apply to this site.

* **Executive Summary, Backround**
Page ES-9, Paragraph 2.

It is stated that manganese is not a site-related contaminate and its presence is noted in upgradient wells at <u>all</u> NCBC Davisville sites. Please state if an attempt has been made to locate the possible source of manganese.

RIDPES standards/RI ambient water quality criteria would apply to catch basins which discharge to surface water bodies.

* **Executive Summary, Alternative 3 - Containment and Monitoring:**
Page ES-12, Paragraph 2.

"Implementation of this alternative could limit the potential for future commercial/industrial use of the site, based on restrictions which would be required to protect the integrity of the cap."

It should be clearly stated that commercial/industrial use of the site would not be allowed

under alternative S-3B (single layer cap), but could occur, if appropriately designed, under alternative S-3A (vegetative cover).

* **Section 2.3.2, Site Hydrogeology:**
Page 2-3, Paragraph 1.

Figure 2-3 should be changed to Figure 2-5.

* **Section 2.3.2, Site Hydrogeology:**
Page 2-3, Paragraph 3.

Since this is a public document please explain how it was determined that the measured verticle gradients indicate that verticle transport would have little impact on contaminant migration at the site. It is suggested that the numbers be put in perspective for the public, for example, what does -1.81×10^{-3} mean in terms of movement of water in the ground.

* **Section 4.2.3, Alternative S-2 - Limited Action Alternative Description**
Page 4-5, Paragraph 1.

If a fence is to be placed around the site please explain why deed restrictions would only restrict the site from future residential use. This would imply that commercial/industrial uses could still take place which would then negate the need for the fence. It would seem that commercial/industrial site uses as well as other site uses injurious to humans should also be restricted.

* **Section 4.4.7, Alternative GW-3A - Ground Water Extraction via Trench Option:**
Page 4-17, Paragraph 1.

If ground water is extracted at a rate of 2 GPM please explain why the treatment system would be oversized to treat at a rate of 10 GPM.

* **Section 4.4.9, Alternative GW-3B, Precipitation Inorganic Treatment Option Description:**
Page 4-19, Paragraph 4.

Given that lead has a limited solubility in water, please state what the removal efficiency for lead would be and whether it would meet removal criteria.

* **Section 4.4.13, Alternative GW-3D - Discharge to Surface Water Option Description:**
Page 4-23, Paragraph 1.

This "alternative" is an integral part of either the Precipitation or Ion Exchange and therefore should not be considered as an alternative especially since no other discharge alternatives were considered. The cost for the discharge of the treated water, however, should be factored into the cost analysis for the above two mentioned treatment alternatives. Similar concerns exist for "alternative GW-3A (Ground Water Extraction via

Interceptor Trench Option).

* **Section 4.4.14, Discharge to Surface Water Option Evaluation:**
Page 4-24, Implementability.

Please offer further explanation as to what is meant by "Maintenance of the system will be limited."

* **Table 3-9, Technologies Which Passed Screening Soil/Ground Water, Site 06.**

Table 3-9 indicates that discharge of treated water to a sanitary sewer/POTW passed screening while Table 3-6 indicates that it did not. Please clarify.

* **Figure 4-3, Site 06 Solvent Disposal Area - Chemical Precipitation Schematic.**

Unless it can be shown that the lead and manganese concentrations from the aqueous phase of the filter press are acceptable the water should be returned to the equalization tank in this process rather than sent to the pH adjustment unit operation with subsequent discharge to the environment.

SITE 13 COMMENTS

* **Section 2.3.2, Site Hydrogeology:**
Page 2-4, Paragraph 2.

For informational purposes the calculations for the linear velocity of the ground water should be provided.

* **Section 2.3.3 Site Hydrology:**
Page 2-4, Paragraph 1.

Please state if the three catch basins which receive most of the flow is based on measurements.

* **Section 2.6.3, Pesticides/PCBs, Surface Soil:**
Page 2-12, Paragraph 1.

"Sample SS13-9, located in the eastern portion of the site, exhibited a 1.2% level of PCBs during its original analysis."

Since all other concentrations, in this section, are expressed as ppm the 1.2% should also be expressed as ppm. The general public may not realize that a 1.2% level of PCBs represents 12,000 ppm. In addition, the resample (970 ppm) and reduplicate (720 ppm) should not be given equal weight when compared to the original sample. The resample

and reduplicate should be averaged and that average averaged with the original sample as shown below:

$$((970 + 720)/2 + 12{,}000)/2 = 6{,}423 \text{ ppm}$$

not the 4563 ppm as stated in the text.

* **Section 2.6.4, Inorganic Analytes, Ground Water:**
Page 2-14, Paragraph 2.

Site 11 should be Site 13.

* **Section 2.7, Summary of Contaminant Fate and Transport, Semi-Volatile Organic Compounds:**
Page 2-18, Paragraph 5.

"Contaminants can migrate off-site through surface water runoff via the catch basins."

Please explain if all surface water runoff is captured by the catch basins or if some of it drains off-site without being captured by the catch basins.

* **Section 4.2.5 Alternative S-3 - Containment Alternative Description:**
Page 4-7, Paragraph 1.

"The implementation of deed restrictions would limit future site use and potential disruption of the cap."

Please explain how deed restrictions would disrupt the cap.

* **Section 4.2.5, Alternative S-3 - Containment Alternative Description:**
Page 4-8, Paragraph 1.

For this alternative please explain if the drainage system would be removed in order to construct either the soil cap or single barrier cap. If the drainage system is removed then surficial contaminants would not be able to enter the drainage system.

* **Section 4.2.9, Alternative S-3B - Single-Barrier Cap Containment Option Description:**
Page 4-12, Paragraph 4.

Figure 4-2 shows a three percent slope for the cap while the text states a minimum 5 percent slope. Please clarify.

* **Section 4.2.10, Alternative S-3B - Single Barrier Cap Containment Option Evaluation, Implementability:**
Page 4-14, Paragraph 1.

Please state whether consideration has been given to the need for gas vents.

* **Section 4.2.13, Alternative S-4A - Excavation and Disposal Option Description: Page 4-16, Paragraph 1, Last Two Sentences.**

It is not clear from this paragraph whether a permitted landfill would be needed or not for the PCB contaminated soils. Please clarify.

* **Section 4.2.14, Alternative S-4A - Excavation and Disposal Option Evaluation, Long-Term Effectiveness and Permanence,**
Page 4-17, Paragraph 1.

Please explain for the public how the long term operating and maintenance procedures at the receiving landfill will affect the long term effectiveness of this alternative.

* **Section 4.4.5, Alternative GW-3 Extraction/Treatment/Discharge Alternative Description:**
Page 4-37, Paragraph 3.

It is stated that bis(2-ethylhexyl)phthalate,based on Phase II results will not be considered but Phase I results will be. It is not clear from this paragraph whether this compound is being considered or not. Please clarify.

* **Section 4.5.7, Cost:**
Page 4-51, Paragraph 1.

It is inappropriate to compare the cost of chemical precipitation ($1,200,000) to carbon adsorption ($320,000) since these treatment schemes are used for different types of removals. Similarly the interceptor trench and the discharge piping should not be compared. All four of these operations are necessary to form a single ground water treatment alternative and should be stated as such.

* **Section 4.6.4, Alternative SD-2 - Removal and Treatment/Disposal Alternative Evaluation:**
Page 4-54.

Please state if consideration has been given to the alternative of removal of the storm drainage system.

* **Section 5.1.2, Alternative 2 - Limited Action:**
Page 5-1, Paragraph 1.

Please explain what institutional controls have been proposed for the catch basin sediments.

* **Figure 2-1, Site 13-Disposal Area Northwest of Buildings W-3, W-4, and T-1.**

This figure should delineate the site boundaries and show building W-3.

* **Figure 2-2, Site 13-Disposal Area Northwest Phase I Sampling Locations.**

For consistency this figure should show all catch basin locations. The same applies to Figure 2-3.

* **Figure 4-7, Site 13 - Disposal Area Northwest Chemical Precipitation Schematic.**

Unless it can be demonstrated that the metals concentrations are acceptable the aqueous phase from the filter press should be recycled to the equalization tank.