



STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

**received**  
**4-30-93**

**DIVISION OF AIR AND HAZARDOUS MATERIALS**  
291 Promenade Street  
Providence, R.I. 02908-5767

April 20, 1993

Francisco A. La Greca  
Remedial Project Manager  
U.S. Department of the Navy  
Northern Division  
Naval Facilities Engineering Command  
10 Industrial Highway  
Code 1823-Mail Stop 82  
Lester, PA 199113-2090

RE: Draft Report, Soil Investigation Tank Farm Five - Tanks 53 and 56 Comments for  
the Newport Education and Training Center, Newport, Rhode Island: January 1992

Dear Mr. La Greca:

Please find attached comments generated by the Division of Site Remediation (formerly the  
Division of Air and Hazardous Materials) concerning the abovementioned document. If you  
have any questions concerning the comments, please contact me at (401) 277-2797.

Sincerely,

*Paul Kulpa*

Paul Kulpa, Project Manager  
Division of Site Remediation

cc: Warren S. Angell, DEM DSR  
Greg Fine, DEM DSR  
Andrew Miniuks, EPA Region I  
Cynthia Signore, DEM DWM

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1. **General Comment**

The Division requests increased detail in the presentation of soil remediation alternatives. The State suggests that the information covered in the Section 5.0, **Preliminary Alternatives For Soil Remediation** be presented in tabular form. At a minimum, this table should include the following information:

- Suitability of remediation techniques to contaminants found at the site such as heavy oils, VOCs, SVOC, etc.
- Remediation times associated with each alternative.
- Compatibility of remediation techniques with on-site groundwater remediation system.
- Cost/Implementability, etc.

2. **General Comment**

For each remediation alternative, the report should discuss the compatibility and effectiveness of the alternative with respect to the established groundwater remediation system. The State considers this omission to be a serious oversight.

3. **HISTORY, Page 2-2:  
Section 2.2, Paragraph 2.**

The report should note the past releases which have occurred at Tank 53.

4. **Ground Water Hydrology, Page 2-9:  
Section 2.5.**

Hydraulic conductivity, horizontal hydraulic gradients and average linear velocity values are noted in this section. All calculations used to derived these values, including the points used in the calculations must be included in the report. In addition, justification is required for any assumptions used in the calculations (for example, effective porosity 15 %). Also, the report should note whether the overburden hydraulic conductivities observed during the slug test are within the range of literature hydraulic conductivities.

5. **Soil Gas Sample Locations, Page 3-2:  
Sec. 3.2.1, Paragraph 3.**

The configuration of the soil gas sampling locations around Tank 53 and 56 are provided in Figure 5 and 6, respectively.

The report should include a figure depicting the results of the soil gas survey carried out at the site (such as Figures 6 and 7 of the Sampling and Analysis Plan dated October 1, 1992).

**6. Total Petroleum Hydrocarbons (TPH), Page 4-4:  
Sec 4.3.2, Paragraph 2.**

The report should note the analytical procedure used in the TPH analysis (Test procedure code and a brief description of test procedure).

**7. Preliminary Alternatives for Soil Remediation, Page 5-1:  
Section 5.0.**

All cost estimates should include the references used to generate the estimates (ie, cost estimates for soil excavation is based on cost accrued at similar projects, subcontractors bids, proposals, etc.). In addition, all information used to generate the cost should be included in the report. The report should also segregate the estimated cost into initial capital cost and O&M cost. Finally, the report should estimate the remediation times for the various alternatives (these times may be rough estimates).

**8. Excavation and Off-Site Landfilling Alternative, Page 5-3:  
Section 5.2.2, Paragraph 4.**

Please provide additional clarification concerning the above statement. The State requests that the Navy specify whether the anticipated reduction in efficiency will be due to naturally occurring soils or previously excavated soils. If previously disturbed soils are to be removed, the report should explain exactly why difficulties are anticipated.

**9. Excavation and Off-Site Landfilling Alternative, Page 5-4:  
Section 5.2.2 - Cost.**

The report should include complete and detailed references for the estimated cost for soil excavation and clean fill. In addition, the report should note whether the clean fill estimate represents a material estimate or the total cost for backfilling with clean fill. The report should also provide additional information concerning the following:

- Proposed method used for slope stabilization in cost estimate (ie, steel sheeting etc.).
- Whether confirmation sampling would be conducted in the areas to be excavated.

Density values employed for excavated soil.

**10. Asphalt Batching Alternative, Page 5-6:  
Section 5.2.3 - Cost.**

The report should explore the possibility of sending the material to an asphalt batching plant. In addition, the report should reference all cost estimates.

**11. In-Situ Vapor Extraction Alternative, Page 5-8  
Section 5.2.4.**

The report should include a table including the Henry Law Constants and vapor pressures of all the organic contaminants in the soils at the site. In addition, the report should note the volume of contaminants at the site (ie, highest, average and lowest concentration of contaminations in the affect area and a rough estimate on the total mass of contaminants to be remediated). Finally, the report should note whether the remediation estimates include off gas treatment. If this is not the case the report should provided estimates for said treatment.

**12. In-Situ Bioremediation Alternative, Page 5-9:  
Section 5.2.5 - Effectiveness.**

Please provide additional qualifying information which justifies that Bioremediation is less effective in treating chlorinated hydrocarbons.

**13. In-Situ Bioremediation Alternative, Page 5-10:  
Section 5.2.5 - Cost.**

The report should provide additional information for the referenced cost estimates (ie, whether cost estimates are for oxygen, hydrogen peroxide injection etc).

**14. Summary of Soil Alternatives:  
Section 5.3**

Soil flushing is a viable alternative which should be examined in this cost estimate. The report should also comment on the proposed groundwater treatment remedy. In addition the report should comment on the affect that these remedies will have on the groundwater treatment proposal (ie, whether soil flushing with a surfactant will reduce the remediation time for the groundwater treatment process).