



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 1

JOHN F. KENNEDY FEDERAL BUILDING
BOSTON, MASSACHUSETTS 02203-0001

February 6, 1998

James Shafer, 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: TECHNICAL REVIEW SOURCE REMOVAL EVALUATION REPORT OLD FIRE
FIGHTING TRAINING AREA

Dear Mr. Shafer.

EPA reviewed the Source Removal Evaluation Report, Old Fire Fighting Training Area, Naval Education and Training Center, Newport, Rhode Island dated January 1998. EPA evaluated the report for technical adequacy, adherence to EPA guidance, and generally accepted practice. The report was reviewed for applicability to the eight conditions presented in the National Contingency Plan (*see* 40 C.F.R. § 300.415). EPA also compared the data to the direct exposure and leachability criteria presented in Section 8.0 of RIDEM's Remediation Regulation (DEM-DSR-01-93, amended August 1996) Region III RBCs and RIDEM criteria exceedences were compared with the analytical data provided in the appendices and the appropriateness of conclusions and recommendations were evaluated. Detailed comments are provided in Attachment A.

Although the analytical data presented thus far do not indicate contaminant levels that pose a significant imminent threat warranting immediate action, the *Source Removal Evaluation Report* does not adequately evaluate the threat to ecological receptors and human health. The Report also does not adequately evaluate the presence of discrete contaminant sources.

The evaluation and discussion of the NCP criteria within Section 4.5 of the Report need to be strengthened. A quantitative evaluation including federal risk-based criteria for ecological and human health (in addition to RIDEM criteria) should be added. The evaluation of the threat to ecological receptors needs to be strengthened. The report only presents a very brief qualitative evaluation of risk to ecological receptors.

A comparison to Region III residential RBCs showed exceedences for several chemicals and media. Risks in the E-4, E-5 to E-6 range were calculated for several contaminant concentrations in soil and water using comparisons to Region III residential RBCs. This range of risk does not warrant immediate removal action given the conservative nature of using residential exposure parameters to assess risks for a recreational user. However, current (after removal of the top 12-

15 inches) surface soil contaminant concentrations were not clearly presented and appeared to be insufficiently evaluated.

The report only presents a very brief qualitative evaluation of the threat to ecological receptors. The open faces of the fill materials have been previously characterized as a continuing source of PAH contamination to marine sediments. A non-time critical removal action of the exposed fill materials is discounted by the report because the SVOC constituents detected in sediment sample SS-1 is not strongly correlated to constituents found in the SS-3 asphalt sample. This correlation is not presented in the Report. The rationale for discounting the open face fill materials as a continuing source of contamination to the marine sediments needs to be more fully presented in the report.

The Report does not sufficiently substantiate the conclusions that there are no discrete source areas. The Report should explain that the observed pipes could be discrete sources of contamination and describe the benefits/disadvantages of removing the pipes in a removal action. The cast iron pipe that discharges into Narragansett Bay should be evaluated to determine whether it could be considered a discrete source of contamination to marine sediments. The benefits and disadvantages of plugging the pipe before the remedial investigation should be presented and evaluated in the Report. Plugging of the pipe or removing the pipe should be considered at this time because of the ecological exposure to contaminant discharge from the cast iron pipe.

Also, the report should spatially evaluate the data on a contaminant or group of contaminants basis. The text of the report and the discussion of the lack of discrete source areas seems to be based on TPH. I recommend evaluating whether there are discrete areas of elevated PAHs, or lead.

Subsurface soil collected from MW-102 and TP-15 had the highest concentrations of PAHs. These sampling points are adjacent to SS-1, the sediment sample with the highest PAH concentration. Page 3-15 of the Report states that the 8-inch pipe may have been connected to the oil/water separator according to PWD Drawing No. 637869.

Elevated lead concentrations were detected in the vicinity of the buried foundation (TP-13 and -16). Could the foundation be one of the Carrier Compartments? The possible prior use should be discussed in the evaluation of a potential discrete source area.

The test pit observations and analytical results should be evaluated and correlated to PWD Drawing No. 637869 and the 1944 aerial photograph. This correlation should be presented in the Report - both in the discussion and by a figure that depicts the test pit locations and the former locations of the "Christmas trees," oil tanks, ancillary piping and "carrier compartments."

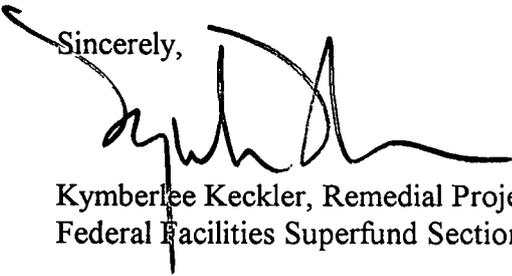
Also, the potential creation of the central mound by the razing of these structures needs to be discussed in the Report. Due to the geophysical findings and borings through the mounds at the

site, it appears likely that the fire training structures were razed and are located within the mounds (1994 Old Fire Fighting Training Area Remedial Investigation Draft Report). The effect of such a large scale land moving operation on the prospect of locating discrete contaminant sources should be discussed in the report.

The concentration of contaminants in the groundwater are below RIDEM criteria. However, a concentration of 21,000 mg/kg was detected for TPH in soil. The potential for TPH constituents to leach into the groundwater at concentrations exceeding RIDEM criteria of 2,500 mg/kg should be quantitatively discussed in the text of the Report.

I look forward to working with you and the RIDEM toward the cleanup of the Old Fire Fighter Training Area. We should discuss what would be the best strategy - whether it is a removal action or a remedial action - to address the contamination at the site. Please do not hesitate to contact me at (617) 573-5777 should you have any questions or wish to arrange a meeting.

Sincerely,



Kimberlee Keckler, Remedial Project Manager
Federal Facilities Superfund Section

Attachment

cc: Paul Kulpa, RIDEM, Providence, RI
Kevin Coyle, NETC, Newport, RI
Jennifer Stump, Gannet Fleming, Harrisburg, PA
Steven Parker, Brown & Root, Wilmington, MA
Mary Philcox, URI, Portsmouth, RI

ATTACHMENT A

<u>Page</u>	<u>Comment</u>
p. 2-3, §2.2.1	The excavation at test pit TP-04 was halted owing to the presence of potential asbestos containing material (ACM). The disposition of ACMs should be discussed in this Report. The text should state whether ACM will be handled under the CERCLA program or under a state regulatory program.
p. 2-9, §2.4	The text indicated that sampling of the outfall pipe on the northern shoreline was eliminated because no visible water was flowing from the pipe at low tide. The objective of the storm sewer outfall investigation was to determine if PAH constituents were discharging from the storm sewers. Samples should have been collected right after a storm event. Collecting samples just after a storm event when water is discharging from the outfall should be included in future investigations.
p. 3-2, §3	<p>It is stated that the default input parameters for the industrial/commercial exposure criteria that are available under Rule 8.02B of the <u>Remediation Regulations</u> are conservative for use in the evaluation of the recreational exposure reflective of the current use. While these exposure parameters may be too conservative for use in evaluating recreational human health exposure at the site, these exposure criteria or Region III RBCs should be compared to the site specific data for screening purposes. The chemicals that exceed these screening level criteria should be evaluated in the risk assessment using reasonable maximum exposure parameters for current and future use scenarios.</p> <p>A comparison to Region III residential RBCs showed exceedences for several chemicals and media. For example, the concentration of arsenic at TP-16 (10 to 11 ft bgs) was 74.4 mg/kg. Using the Region III residential soil RBC as a comparison, this concentration yields a 2E-4 relative risk. The concentration of manganese at OFF-A-WM2D-01 was 6,390 µg/L. This concentration, when compared to the Region III tap water RBC yielded a 8E-5 risk. Risks in the E-5 to E-6 range were calculated for several other concentrations in subsurface soil and water using similar comparisons. The report needs to compare current surface soil contaminant concentrations to RBCs or other risk-based criteria.</p>
p. 3-5, §3.1.2	The text states that the RIDEM industrial/commercial direct exposure criterion for 2-methylnaphthalene is 0.04 mg/kg. However, the RIDEM's Remediation Regulation (DEM-DSR-01093, amended August 1996) states

that the criterion is 10,000 mg/kg. Please verify the RIDEM industrial/commercial direct exposure criterion.

- p. 3-7, §3.1.5 The text states that arsenic was detected at 4.1 mg/kg in soils collected at the one to two foot interval. However, the direct exposure to this contaminant has not been discussed even though it is above two feet.
- p. 3-10, ¶3, § 3.2.5 This paragraph discusses the lack of regulatory standards to compare with the concentrations of metals in a GB aquifer. Use of other regulatory standards, such as regulatory standards for other aquifer classifications or Region III tap water RBCs should be considered. Although these other standards may be very conservative for use in screening GB aquifer concentrations, they can provide important information to enable characterization of the contamination in the aquifer. Although the GB aquifer groundwater is not suitable as a potable water supply, it may influence surface water concentrations and therefore could contribute to ecological or human trespasser exposure. The groundwater contaminant concentrations should be compared to regulatory standards for other aquifer classifications or Region III tap water RBCs.
- p. 3-11, § 3.2.6 This section discusses the lack of test pit aqueous samples. Three of the four samples were lost. Collection of groundwater at approximately the same depth and location as the test pit should be conducted during the remedial investigation. Also, soil sampling data representative of current conditions needs to be presented or summarized in this section. It is the current soil cover that is of concern for human health exposure.
- p. 4-6, §4.4 The second paragraph ends with the following sentence, "Determinations as to whether or not the pipe acts as a potential discrete contaminant source could not be made based on the collection of a single sample." According to the Source Removal Evaluation Work Plan, the purpose of the storm sewer outfall samples and the sediment samples was to "attempt to corroborate the Phase II RI's findings." This section does not discuss the Phase II RI findings and does not attempt to corroborate them. Five sediment samples and storm sewer outfall samples were collected during the Source Removal Evaluation. Therefore, it is inappropriate to indicate the collection of "a single sample."
- p. 4-8, § 4.5 The first paragraph addresses the actual or potential exposure to nearby human populations, animals, or the food web from hazardous substances or pollutants. Although a characterization of the excavated topsoil is included, the remaining soil (now the surface soil) is not characterized. Groundwater concentrations are also not characterized. The surface soil

that is presently at the site and the groundwater should be characterized and potential exposure pathways should be discussed.

p. 4-8, §4.5, ¶2

This paragraph addresses the actual or potential contamination of drinking water supplies or sensitive ecosystems. The paragraph does not provide enough information to adequately ensure that drinking water supplies will not be contaminated. The existence of sensitive ecosystems and potential human and ecological exposure pathways should be discussed. Narragansett Bay must be identified as a sensitive ecosystem. The elevated SVOC concentrations detected in sediment sample SS-1 and the adjacent subsurface should be discussed and evaluated under this category.

p. 4-8, §4.5, ¶3

This paragraph addresses the hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers that may pose a threat of release. It is stated that no such containers were found in the field investigation. However, the field investigation did not identify the location of the former fire training facility structures. The uncertainty of locating all possible sources of contamination in the field investigation must be addressed under this category.

p. 4-8, §4.5, ¶4

This paragraph addresses the presence of high levels of hazardous substances or pollutants in soils largely at or near the surface that may migrate. The topsoil that was removed from the site is characterized, but the remaining soil cover was not discussed. It is the current soil cover that is a concern for potential current human health (recreational or trespasser) exposure. Please add a discussion regarding the current surface soil characterization and the possibilities for migration.

p. 4-9, §4.5, ¶1

This paragraph addresses the weather conditions at the site that may cause hazardous substances or pollutants or contaminants to migrate or be released. The paragraph states that weather conditions have not caused contaminants to migrate over the past three years. This statement is not defended in the text and three years is not a significant time period to conclude that contaminants do not migrate. The discussion should be further expanded to defend the statement and to discuss the possibilities of migration from soil to groundwater owing to rain events and other such precipitation events.

The potential for wave action during storm events to erode the open faced fill material into the bay should be discussed under this category.

p. 4-9, §4.5, ¶5

This paragraph discusses other situations or factors that may pose a threat to public health, welfare, or the environment. The discussion does not

provide information regarding potential exposure pathways for human health or the environment. The paragraph should be further developed to include a discussion of potential exposure pathways for populations such as trespassers or future use receptors and the magnitude of the potential threat to human and ecological receptors.