



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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March 1, 2000

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: Draft Work Plan for Background Soil Investigation at the Old Fire Fighting Training Area, Naval Station Newport, Newport, Rhode Island

Dear Mr. Shafer:

EPA reviewed the *Draft Work Plan for Background Soil Investigation Old Fire Fighting Training Area* dated January 2000. The report was reviewed for technical adequacy and consistency with the decisions made at the December 8, 1999 project meeting. Detailed comments are provided in Attachment A.

This document describes Navy's proposed investigation of soils on Coasters Harbor Island for the purpose of establishing background concentrations of metals, including arsenic. Although the document does not clearly describe how the data will be used, EPA assumes that the data from the Old Fire Fighting Training Area will be evaluated by comparison to these background concentrations.

As you know, EPA currently believes that it is not appropriate to use background data to eliminate contaminants of concern in a risk assessment. A risk estimate should be generated for each chemical that exceeds an RBC. The risk assessment should present the total site risk for each exposure scenario. EPA is willing to review an *additional* assessment of risk solely from chemicals believed to be site-related. It is critical that the remedial investigation discuss the statistical background data results in the uncertainty and risk characterization sections of the human health risk assessment. The remedial investigation should also discuss the background data set robustness.

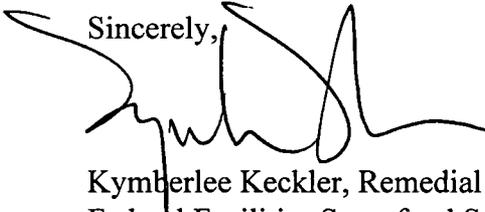
Based on Navy's assessment of available information, historical records of land use, *etc.*, two areas (C and D; Dewey Field) have been chosen as primary sample locations, and two other areas (H and I; grounds surrounding officers' quarters) have been selected as secondary locations.

The information requested in December 1999 when EPA reviewed these locations has been supplied in the Draft Work Plan. Key issues included: the use of historical information and additional supporting evidence for the chosen background sampling locations, identification of

soil type(s) on Coasters Harbor Island, and the statistical approach to be used for analyzing background data.

I look forward to working with you and the Rhode Island Department of Environmental Management toward the cleanup of the Old Fire Fighting Training Area. Please do not hesitate to contact me at (617) 918-1385 should you have any questions.

Sincerely,



Kymberlee Keckler, Remedial Project Manager
Federal Facilities Superfund Section

Attachment

cc: Paul Kulpa, RIDEM, Providence, RI
Melissa Griffin, NETC, Newport, RI
Cindy Hanna, USEPA, Boston, MA
Jennifer Stump, Gannet Fleming, Harrisburg, PA
Mary Philcox, URI, Portsmouth, RI
David Egan, TAG recipient, East Greenwich, RI

ATTACHMENT A

<u>Page</u>	<u>Comment</u>
p. 1-1, §1.1, ¶2	EPA notes that 'background' is specifically defined as "...concentrations [that] may be attributed to sources that are naturally occurring (not influenced by human activity) and anthropogenic (from human activities not specifically related to the hazardous waste site)." The background investigation explicitly includes both naturally occurring and anthropogenic levels. The mobility of numerous metals -- for example, arsenic, iron, and manganese -- is strongly affected by subsurface redox conditions. Under oxidizing conditions, these elements are relatively stable, but can be released into solution in a reducing environment. Iron, manganese, and arsenic are common constituents of soils and bedrock, and may be immobile under naturally-occurring, <i>in situ</i> conditions. However, if anthropogenic activities -- for example, the installation of a landfill cap, or microbial degradation of a petroleum release -- promote the development of reducing conditions, downgradient concentrations of these elements may be elevated as a direct result of site-related activities. If these concentrations exceed acceptable limits, then such contaminants must be evaluated fully and the question of responsibility for their occurrence needs to be resolved.
p. 2-5, §2.2.1, ¶2	EPA has previously requested an identification of the soil types present on the island. The Draft Work Plan includes a map (Figure 2-2) that shows two soil types, and cites the USDA Soil Survey of Rhode Island, 1981, as the source of this information. The proposed primary sampling areas C and D, and secondary areas H and I, are located within the Udorthents-Urban land complex type. The Navy indicated that most of the island soils have been previously disturbed or impacted by imported fill. However, available soil mapping indicates that the soil type found at OFFTA (north end of the island) extends across the island. The chosen background sampling locations are at the opposite end of the island, in areas where historical land use was either 'undeveloped' or grass-covered (recreational or parade ground assumed to not be impacted by OFFTA site activities). As discussed on December 8, 1999 EPA concurs that these areas are reasonable and appropriate for background sampling.
p. 2-7, §2.2.4, ¶2	In response to EPA's previous request for additional supporting information on historical land use, the Draft Work Plan has summarized land use history at all of the proposed sampling sites (Table 2-1) as far back as 1891. It is noted that area "H" was cultivated as an orchard in 1891/93. While the history of arsenic-laden pesticide use in this area may

not be known, the possibility of elevated arsenic in surface soils should be considered when evaluating data from this area.

p. 4-3, §4.1.3, ¶2

Previous comments addressed the issue of variable soil types on Coasters Harbor Island and potential for jeopardizing the investigation's objective of establishing a valid background data set. The Navy states that additional sampling may be conducted if the evaluation of analytical results indicates that data quality (either number of samples or an individual analysis) is not adequate. EPA is pleased that the project objectives will be adhered to.

p. 4-3, §4.1.3, ¶3

With respect to completeness, one issue raised in previous review comments by EPA was not addressed. It was noted that data from four background samples were presented in the Phase II Remedial Investigation Report for the Old Fire Fighting Training Area (August 1994), and EPA suggested that all existing background data should be reviewed for data quality and appropriateness. Has such an evaluation of data quality and appropriateness been completed? Are these four samples located within any of the proposed sample areas (*i.e.*, C, D, H, or I)? If so, have these data been reviewed by Navy and will they be included in the current investigation? The rationale for including or excluding the previously collected background samples should be clearly stated.

p. 5-1, §5.0, ¶2

Questions raised by EPA regarding statistical analyses of data are addressed in this section. The discussion presented in this section suggests that Navy has considered all critical aspects of data analysis -- in particular, for arsenic, the comparison of the two data subsets (surface soil, 0-2 ft and subsurface soil, 4-6 ft) has been considered, in order to determine if these subsets represent two discrete populations, or if the data can be combined. In addition, Navy has proposed an alternative limit concentration corresponding to the 95th quantile, in the event that background data from either soil interval are not normally or lognormally distributed.