



RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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May 12, 2003



Franco LaGreca
U.S. Department of the Navy
Northern Division
Naval Facilities Engineering Command
10 Industrial Highway
Code 1823-Mail Stop 82
Lester, PA 19113-2090

RE: Draft Work Plan Background Soil Investigation for NUSC Disposal Area, Naval Station Newport, Newport, Rhode Island

Dear Mr. LaGreca,

The Rhode Island Department of Environmental Management, Office of Waste Management, has reviewed the Draft Background Soil Investigation Work Plan for the NUSC Disposal Area, dated 31 March 2003. Attached are comments generated as a result of this review.

The Navy has elected to perform a background study prior to conducting a remedial investigation of the site. Typically a remedial investigation is performed prior to, or at the same time as the background study. This sequence is normally done as site specific information is used to guide the background study, (i.e. soil types, where samples will be taken, etc). In addition, performing the background study prior to the collection of site specific information may bring into question the conclusions of the study and may result in the need to perform another study. Finally, and fundamentally, the site-specific information is used to determine if an extensive background study, similar to the one proposed, is even needed.

In addition to the above considerations be aware that the Office of Waste Management is currently reevaluating the arsenic standard and background study requirements. In light of these considerations the Office of Waste Management suggest that the Navy postpone conducting the background study at least until after site-specific information has been collected.

If the Navy has any questions concerning the above, please contact this Office at (401) 222-2797, ext. 7111.

Sincerely,

A handwritten signature in cursive script that reads "Paul Kulpa".

Paul Kulpa, Project Manager
Office of Waste Management

cc: Richard Gottlieb, DEM OWM
Kymberlee Keckler, EPA Region I
Cornelia Mueller, NETC

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**Comments on Draft Work Plan
Background Soil Investigation
NUSC Disposal Area**

**1. Section 1.1 Specific Investigation Objectives;
Page 1-1, Whole Section.**

This section of the work plan includes a discussion of the Site Remediation Regulations requirements for a background investigation. The discussion implies that if there are elevated levels of contaminants at the site and at neighboring areas remediation is not required. Presence of contamination on the site and or the neighboring area does not negate the need to address the contamination. Therefore, please remove this discussion from the work plan, as these statements concerning the application of the regulations are incorrect.

**2. Section 1.2 Project Deliverables;
Page 1-3.**

Please add the following to the list of deliverables:

Map depicting the concentrations of arsenic and lead found in the various sampling locations.

Summary table of analytical data, as well as, a separate summary table for arsenic and lead.

Map and summary table as describe above for any other analyte, which the Navy intends to request a background exemption.

Table describing the depth and geologic characteristic of each sample.

Summary tables of statistical test employed including sample results and statistical critical values (as an illustration if a test for normality is conducted the table should include the test result for the sample data as well as the critical or cut off value from the test which will determine whether the sample is normal).

**3. Section 2.2.1, Soil Types;
Page 2-7, Paragraph 3.**

The work plan proposes conducting separate background studies on the hydric and non hydric soils. The background samples for the hydric soils will be collected from the streambeds. Although not stated it is assumed that the samples will be collected from soils immediately adjacent to the stream and not from any soils submerged in stream water. Please confirm.

**4. Section 2.2.1, Soil Types;
Page 2-7, Paragraph 3.**

The work plan notes that the soil adjacent to the stream beds in the same soil classification will be hydric, as opposed to the non-hydric soils located further away from the stream beds. Accordingly, two background studies will be performed at the site, one for hydric and the other for non-hydric soils. These studies will entail the collection of twenty background soils samples for each soil type. The site does not lie in the flood plain of a large river. In fact the streams entering the site are small, and in some locations they can be jumped across. Further, disposal activities have resulted in nearly vertical slopes along sections of the stream, and overall the wetlands at the site itself is limited. Therefore, the hydric soils at the site may not be significant enough to warrant a separate, intensive, background investigation, such as the one proposed in the work plan. Without site-specific information demonstrating the need to perform a separate background assessment, the Office of Waste Management does not concur with the proposed background study for hydric soils.

**5. Section 2.2.4, Definition of Study Boundaries;
Page 2-9.**

This section of the work plan includes a discussion of the site and the different areas where background samples may be collected. The work plan notes that the site and the proposed background areas were used for agricultural purposes, golf course, etc. The Navy notes that pesticides, herbicides and other agricultural chemicals were commonly and consistently used at these sites. Be advised that it is inappropriate to collect background samples from release areas. Therefore, all of the proposed background areas are inappropriate and the Office of Waste Management does not concur with the proposed locations and will not accept or review any reports based upon samples taken in these areas. The work plan should focus on non-release areas, that is, areas where pesticide, herbicides, etc were not used. The criteria of collecting samples in non release areas was employed in the background studies performed at other sites on the base. Accordingly, the work plan should be modified and alternate sampling areas should be proposed.

**6. Section 3.2, Soil Sampling;
Page 3-1, Whole Section.**

The proposed soil sampling locations are not acceptable. Please submit alternative sampling areas for review. Be advised that background samples should not be collected from release areas.

**7. Section 3.0, Field Sampling Plan;
Page 3-1, Whole Section.**

The work plan should include a section on regulatory notification. The work plan should specify that the regulatory agencies will receive a schedule for field activities and will be notified one week prior to the start of the sampling effort. In addition, when possible, a twenty-four hour notification should be given for any cancellation of field activities.

**8. Section 5.0, Data Analysis and Statistical Testing;
Page 5-1, Whole Section.**

This section of the work plan discusses the statistical test that will be used to evaluate the data. Although not stated it is assumed that this evaluation will include results for standard statistical test. These test include, but are not limited to, the mean (geometric/arithmic), median, mode, variance, range, minimum, maximum standard deviation, interquartile range, percentiles, variation, sum, count confidence level skewness, and kurtosis. All of this information should be presented in table format as appropriate. In addition the sample results for a particular contaminant that the Navy is performing a background assessment on, will be depicted in tables in ascending order. The Office of Waste Management recommends placing the above statistical data below the ascending order values.

**9. Section 5.0, Data Analysis and Statistical Testing;
Page 5-1, Whole Section.**

This section of the work plan notes that the Shapiro Wilks Test will be used to assess normality. There are a number of statistical tests that may be used to assess normality. Should the Shapiro Wilks be inappropriate other tests may be employed.

**10. Section 5.0, Data Analysis and Statistical Testing;
Page 5-1, Whole Section.**

This section of the work plan lists the different tests that will be performed to analyze the background data set. Prior to performing these analysis tests for outliers should be performed on the data sets. This step is necessary as it may affect which sample locations are used in the background analysis.

**11. Section 5.0, Data Analysis and Statistical Testing;
Page 5-1, Whole Section.**

This section of the work plan lists the different tests that will be applied to the data sets. Please be advised that each test has limitations as to whether the test can be applied to normal, log normal, or non-normal data. Prior to performing the particular test the Navy will have to demonstrate that the test is appropriate for the particular data set.

**12. Section 5.0, Data Analysis and Statistical Testing;
Page 5-1, Whole Section.**

The work plan notes that a statistical test will be performed to determine whether the hydric and nonhydric background data sets will be combined. The plan has also included a lengthy discussion concerning the differences in the soil types and where the soils would be found, (i.e. hydric soils are in the vicinity of the streams, etc, non hydric soils are upland). Unless there is evidence that flooding at the site has resulted in hydric soils being deposited on the nonhydric portions of the site, there is no reason to combine the two data sets.

**13. Section 5.0, Data Analysis and Statistical Testing;
Page 5-1, Last Paragraph.**

This section of the work plan states that the 95 % UTL will be used to determine the background concentration. It is premature to state whether the 95 % UTL will be employed as the background concentration. The value employed will be based upon the data. Accordingly, the work plan should note that 95 % UTL, the 80 %, the mean etc., may be used as a reference value for existing site data.