



**State of New Jersey**  
**Department of Environmental Protection and Energy**  
Division of Responsible Party Site Remediation

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Mr. Jerry Hoover, Project Manager  
Northern Division  
Naval Facilities Engineering Command  
U.S. Naval Base, Bldg. 77L  
Philadelphia, PA 19112

20 MAY 1992

Dear Mr. Hoover:

Re: Naval Weapons Station Earle (NWSE)  
Colts Neck Township, Monmouth County  
Draft Remedial Investigation Report, March 1992

The Department of Environmental Protection and Energy (DEPE) has reviewed the March 1992 draft Remedial Investigation Report prepared by Roy F. Weston. The DEPE's comments are as follows.

General Comments

1. The sample designations used for monitor wells, soil samples, and sediment samples differ between the site figures and the data tables. The overall numbering system is confusing, making it difficult to correlate analytical results with site locations. These discrepancies must be corrected.
2. Some of the data tables fail to report detection levels achieved for each sample analyses and simply display a "U" for the result. All "U" designations in the data table must be accompanied by the sample specific detection level achieved for that run.
3. Throughout the text of the report, positive hits for Acetone and Methylene Chloride are negated as laboratory/field contamination. While this is commonly true, not all of the hits as shown in the data tables can be linked with associated blank contamination. Accordingly, such hits must be considered real. Also, several hits for acetone are extremely high indicating poor quality control in the lab, in the field, or in the equipment decontamination procedure. Positive hits for these compounds that cannot be associated with blank contamination must be reevaluated and explained. Collection of additional ground water samples may be necessary to resolve this question.
4. Throughout the report, language is included that attempts to draw conclusions regarding the insignificance of contamination detected (i.e. metals concentrations in ground water). Many of the statements made are

unsupported by current or previous data. No data is presented to show that regional ground water has normally high levels of Cr, Pb, Cd and As that results from naturally elevated concentrations of these elements in soils. In general, it is inappropriate to include these statements in the report. The Navy, U.S. EPA and the DEPE shall evaluate all results of the RI and the Endangerment Assessment and draw conclusions regarding the significance of any contamination detected. The RI Report should simply provide an unbiased presentation of all available and valid investigation results in an attempt to fully characterize site conditions. Conclusions regarding the extent of contamination are acceptable when supported by site-specific sample results.

5. For consistency the site maps used throughout Chapter 3 of the report should also be used for site maps in Chapter 4. Several of the Chapter 4 maps do not show sediment and soil sample locations and the reader must refer back to the Chapter 3 maps.
6. Based on the results of the test-pits and water level measurements in monitor wells at the landfill sites, the report should evaluate whether trash/fill appears to be in direct contact with the shallow aquifer. In addition, the report should include a section (as an appendix) that provides a narrative description of each test pit. This section should also include the photos of the test pits that were taken during the investigation. Furthermore, the approximate locations of the test pits must be shown on the site maps within the report.
7. The nomenclature used when describing the analytical results should be kept consistent throughout the document. In many cases the data tables report the parameters in parts per billion while the text reports concentrations in parts per million. Units of measurement should be used consistently throughout the document.
8. Section 5 of the report should include the proposed New Jersey Ground Water Quality Criteria in addition to the National Drinking Water Standards.

#### Specific Comments

1. List of Acronyms and Abbreviations

The abbreviation "DCA" for 1,2-dichloroethane should be included in this list.

2. Section 3.1.2, p.3-2

This section discusses the monitor well construction details. In previous comments provided to NWSE and their contractor, the NJDEPE recommended the use of Morie Sand in place of the proposed Ottawa No. 1 Sand. Yet, the report states that, "...the annulus around the well screen was filled with Ottawa No. 1 Sand..." If this was the sand that was used in the monitor well construction, the size particle distribution chart for the filter pack [Ottawa Sand No. 1] must be provided since the degree of fines can have a significant impact on the quality of the sample secured from the well.

3. Fig. 3-2, p 3-19

The location of MW-2-5 is not shown.

4. Table 4-3a, p. 4-8

The table must clarify whether the primary drinking water standards listed are Federal or State MCL's. No standards are shown for Methylene Chloride and Chloroform, but the DEPE has promulgated MCL's for these compounds at 2 ppb and 100 ppb, respectively. The New Jersey MCL's are appropriate and relevant standards for NWSE.

5. Section 4.1.3, p. 4-13

This section of the document discusses the results of the remedial investigation for this site. The contractor attempts to dismiss the degree of metals contamination due to the fact that, "the ground water samples were not filtered prior to preservation and the samples were not totally free of turbidity." While it is understood that metal contaminations tends to adsorb to fine grain particulate material in a aqueous sample, the DEPE does not agree that this is justification to dismiss these compounds due to their lack of mobility in ground water. It is not acceptable to attribute and dismiss all the metals contamination to this issue. In addition, the cleanup standards are based on total metals, which are unfiltered samples. Data must be presented in an unbiased manner without editorial comment.

6. Section 4.1.3, p.4-14

The report incorrectly refers to 50 mg/l as the MCL for Lead.

7. Section 4.1.3, p.4-14

The last paragraph of this section must be removed. Delete the following, "The presence of relatively elevated metal in ground water samples in this and other sites appears more a function of ambient soils conditions (natural or broadly impacted by human activities) plus the unfiltered sample protocol, than any past site activities."

8. Figure 4-2, p. 4-17

Figure 4-2 is not a true cross-section of Site 3 since there are no borings through the filled areas. It is really a "fence diagram" developed from logs of all the wells surrounding suspected fill areas. The depth/approximate zones of buried trash should be depicted on the diagram to show the relationship of the trash to the water table and the various geologic strata.

9. Table 4-4, p.4-22

The NJDEPE guidelines specified for Pesticides and Total Petroleum Hydrocarbons are incorrect. The DEPE proposed Cleanup Standards should be specified here.

10. Section 4.2.3, p. 4-27

The report tends to de-sensitize the reader with statements such as, "The local occurrence of these "hits" does not suggest a major source of contamination in the landfill." All three rounds of ground water analytical results showed metals contamination across the site in several monitor wells. This is not localized "hits".

11. Section 4.2.3, p. 4-27

The report fails to identify and address the fact that cadmium levels were above appropriate standards.

12. Section 4.3.3, p. 4-41

Lead must be included as a contaminant of concern.

13. Section 4.3, p 4-41

The last paragraph of this section of the subject text must be modified. The statement made in this section is unjustified. It states that, "...the Site 4 landfill has impacted sediments and ground water at its boundaries, the sampling showed isolated and relatively limited contamination, and the landfill does not appear to have caused or have the potential to cause major releases of contaminants to the environment." It must be noted that there are no off-site monitor wells which are free of contamination to support this statement. Therefore, this statement must be revised. In addition, monitor well 04-005 has a consistent hit of solvents/degreasers [VOCs] in all rounds of sampling which must be investigated.

14. Section 4.4, p. 4-46,47

Table 4-8a improperly labels the inorganic ground water results as mg/kg. For aqueous results the required nomenclature is either mg/l or ug/l. The contractor should make the appropriate changes.

15. Section 4.4.3, p. 4-52

All three rounds of ground water sampling has confirmed that metals contamination exists in that media. Yet, this section of the document fails to discuss any metals results or the degree of contamination documented to exist. The report must be revised to incorporate metals in the ground water.

16. Section 4.5.2.2, p. 4-59

Comment 15 also applies to Site 7. Table 4-10a must be revised accordingly.

17. Section 4.5.3, p. 4-64

This section of the document fails to address several metals which are also contaminants of concern for the site. The overlooked metals are

arsenic, cadmium, and mercury. It should be noted that again there are no clean off-site downgradient wells to justify the statements made in this section of the document regarding the degree of contamination.

18. Section 4.6.3, p. 4-79

This section of the subject document failed to address Arsenic as a metal of concern for the site. The contractor must revise to include this metal in evaluating the degree of contamination for the site.

Also, paragraph number three of this section of the text must be removed as detailed in comment 7.

19. Section 4.7.3, p. 4-85

The contractor continues to downplay the occurrence of any contaminants found to exist in the ground water. While some of the levels of the contaminants of concern at the site are low, the report should simply report the data without editorial comment. In addition, the last paragraph of this section regarding the unfiltered sample protocol must be removed, as detailed in comment number 7.

20. Table 4-14c, p. 4-87

It is unclear why cadmium was not included as a parameter during the second and third rounds of monitor well sampling.

21. Section 4.8.2, p. 4-92

This section of the text fails to include arsenic and cadmium as contaminants of concern for the site. The contractor should revise the text accordingly.

22. Section 4.11.3, p. 4-123

This section of the document discusses ground water contamination at Site 26. It is necessary to investigate the potential sources of the ground water contamination discussed in the text.

23. Section 5.1, p.5-2

Several typo's exist on this page:

TLL chemicals should be TCL chemicals, and nubble should be rubble.

24. Section 5.1, p.5-2

Paragraphs 3 and 4 discuss analytical results and compare the results to water quality criteria. Paragraph 3 states "...Where water quality criteria apply, no results exceed drinking water standards." Metals were detected above MCL's in ground water at most sites. This section must be revised to accurately reflect which standards are met and which are exceeded.

25. Table 5-2, p. 5-8

The data presented in this table is incomplete. For some of the sites listed, contaminants with elevated concentrations are missing from the table (i.e. metals in ground water). The omission of these results is misleading.

26. Table 5-2, p. 5-8

The table refers to the NJDEPE Proposed Cleanup Standards for Non-Residential Surface Soils. The results of the investigation must be compared to the proposed residential standards. This is justified considering the Navy's history of residential land use on the base (i.e. Child Care Facilities, family housing, etc.). The use of non-residential standards may be considered in the Feasibility Study provided proper land-use restrictions are in place.

27. Section 5-4, p. 5-12

Previous comments provided in this letter describe that in addition to the metals listed, arsenic, cadmium, mercury and in a few cases Silver are also contaminants of concern at the NWSE facility. These need to be included in the evaluation process. As stated before, filtration is acceptable for evaluating the degree to which the metals are dissolved in the ground water but the cleanup criteria are based on total metals concentrations. Also, the DEPE disagrees that metals concentrations in ground water samples "varied significantly from round to round." In most instances where metals were detected above MCL's/Cleanup standards, the levels detected were within an order of magnitude and the same contaminants were found in the same wells from round to round.

28. Section 5-4, p. 5-12

It is difficult to determine the exact use for the third bullet item under the statement, "Based on the analytical results, the following conclusions can be made:" Rationale should be provided for how the mean concentration of the metals will be used.

29. Table 5-6, p. 5-15

This table is very confusing. It is unclear what the table shows. Also, the current MCL for lead is 15 ppb. The tabulation of the concentration of these constituents in downgradient wells should be presented in a clearer manner.

If you have any questions concerning these comments please call me at (609) 633-1455.

Sincerely,



Joseph Freudenberg, Case Manager  
Bureau of Federal Case Management

- c. Paul Ingrisano, USEPA  
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