



RHODE ISLAND  
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

235 Promenade Street, Providence, RI 02908-5767

TDD 401-222-4462

January 8, 2009

Winoma Johnson  
NAVFAC MIDLANT (Code OPNEEV)  
Environmental Restoration  
Building Z 144, Room 109  
9742 Maryland Avenue  
Norfolk, VA 23511-3095

RE: Draft Study Area Screening Evaluation Report Former Melville Navy Water Tower,  
Portsmouth, Rhode Island

Dear Ms Johnson,

The Rhode Island Department of Environmental Management, Office of Waste Management (RIDEM) has reviewed the draft Study Area Screening Evaluation Report Former Melville Navy Water Tower. Attached are comments generated as a result of this review. If the Navy has any questions please contact this office at (401) 222-2797, extension 7111.

Sincerely,

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

Paul Kulpa  
Office of Waste Management

cc: Mathew DeStefano, DEM OWM  
Richard Gottlieb, DEM OWM  
Cornelia Mueller, NSN  
Kymberlee Keckler, EPA Region I

**Comments on the  
Draft Study Area Screening Evaluation Report  
Former Melville Navy Water Tower**

**1. Section 2.0, Previous Studies  
Page 2-2,**

This section of the report summarizes the results of the previous investigations conducted at the site. The report does not include a discussion of the collection of soil samples west of the tower by the United States Navy, which was the first investigation conducted at the site. Please include a discussion of this investigation in this section of the report.

**2. Section 2.3.2, Paint Chip Sampling  
Page 2-5, 2nd Paragraph**

The report states that the concentration of PCBs found in the sample from the drum was due to incidental presence of PCBs and not due to its presence in paint. As this is a public document please expound on the incidental presence of PCBs, (that is whether the observed concentration represents what is typically found in soil, is a contaminant that was in the drum from another location, represents PCBs from a non paint source at the water tower, etc). If the source of the PCBs is not known this should be clearly stated in the report.

**3. Section 2.3.2, Paint Chip Sampling  
Page 2-5, 4 th Paragraph**

This section of the report includes a discussion of the lead and arsenic results found in the paint and in the soil. Please add the following to this section of the report:

Elevated levels of arsenic were found in paint chips samples collected at the site. In addition, one soil sample collected immediately adjacent to the tower had an arsenic concentration of 1311 ppm. This is the highest concentration of arsenic observed in a soil sample collected from any site located in the State of Rhode Island. The distribution of arsenic at the site was similar to lead with the highest concentrations being found in the immediate vicinity of the tower.

**4. Section 2.3.3, Soil Sampling  
Page 2-7, 3 rd Paragraph**

Th report notes that paint chips were not evident in the soil samples indicating that that potential source of contamination may have been associated with sand blasting. Please be advised that the investigations and actions conducted at this site were

prompted when a child brought home a paint chip containing lead. The Navy subsequently engaged in a daily activity of removing paint chips from the grassed and gravel areas surrounding the tower. This daily activity was deemed necessary as paint chips continued to peel off the tower and land in the surrounding play areas. Despite this effort paint chips still were found scattered throughout the site during the investigation conducted by RIDEM. The Office of Waste Management agrees that sand blasting operations may have been a source of the lead found in the area. Another clear source (which is known to the public) would have been peeling paint. Therefore, the report must note that the known source of lead observed at the site is peeling paint and a potential source is sand blasting operations.

**5. Section 2.3.3, Soil Sampling**  
**Page 2-8, 3 rd Paragraph**

The report notes that the elevated levels of lead found adjacent to the fence is more likely a result of traffic from the adjacent road. Please be advised that prior to the removal action blue paint chips were found in this area. Further, elevated levels of lead were typically not found in soil sample collected elsewhere adjacent to the road. Therefore, please remove this statement and simply note that as paint chips were found in this area and the elevated levels of lead may have come from the tower.

**6. Section 2.4.1, Valve Chamber Excavation**  
**Page 2-10, Whole Section**

Please include a figure demarcating the location of the investigation and confirmatory samples taken at this location, as well as, the approximate location where elevated levels of lead contaminated soils were left in place.

**7. Section 2.4.1, Valve Chamber Excavation**  
**Page 2-9, 6 th Paragraph**

“It was recognized that a removal action goal for the site had not been determined...”

Please be advised that at the time of the construction of the valve chamber the remedial action goal had been established at 150 ppm. The Navy was actively removing all soils which exceeded this standard. Therefore, please remove the above statement from this section of the report.

**8. Section 2.4.1, Valve Chamber Excavation**  
**Page 2-9, 6 th Paragraph**

This section of the report indicates that per RIDEM requests soils was placed south of the valve building in order to facilitate its removal in the future. Please be advised that prior to the construction of the valve building sampling results revealed that soils exceeded RIDEM standards. Unfortunately, the roll off which the Navy was placing contaminated soils in had already been taken off site. Accordingly, the Navy, without

consulting RIDEM, elected to place the contaminated soils south of the valve building (RIDEM was informed of the Navy's action after the Navy had placed the soils in the aforementioned location). Subsequent to the Navy's action RIDEM allowed these soils to remain in place with the understanding that they would be addressed by a RIDEM approved remedial action at a later date, such as removal, cap, etc. Please modify the report accordingly.

**9. Section 2.4.1, Valve Chamber Excavation**  
**Page 2-10, 1 st Paragraph**

The report notes that the elevated levels of lead observed next to the fence are from road run off. Please remove this statement and any other similar statements from this section and other sections of the report.

**10. Section 2.4.2, Demolition of Water Tower**  
**Page 2-10, 2 nd Paragraph**

"Demolition of Tower was conducted in August of 2006."

Please change 2006 to 2007.

**11. Section 2.4.3, Soil Excavation**  
**Page 2-10, Whole Section**

Soils at and in the vicinity of the present day valve building was removed as part of this effort. Please include a discussion of this removal and the approximate yards taken off site.

**12. Section 4.1, Evaluation of Lead Concentrations and Human Health,**  
**Page 4-1.**

Please be advised that all of the locations where elevated levels of lead were observed, including those taken adjacent to the fence and those collected by RIDEM must be included in this assessment. Please revise accordingly.

**13. Section 4.1, Evaluation of Lead Concentrations and Human Health,**  
**Page 4-1.**

Please include a figure demarcating the sampling locations which were used in the lead evaluation.

**14. Section 4.2, Evaluation of Arsenic**  
**Page 4-5.**

The report proposes using soil types SE and NE in the assessment. Please be advised that in order to use these soils types the following information must be included in the

report: A US Soil Survey map depicting the soil types in the immediate vicinity of the water tower. A map depicting the location of the soil types which were used in comparison.

**15. Section 5.2, Presence of Arsenic**  
**Page 5-3.**

“The distribution of samples at the site with elevated arsenic concentrations suggest no pattern associated with the water tower as does the lead concentrations.”

The arsenic distribution was similar to the lead distribution with the highest concentrations being found in and adjacent to the water tower. Therefore please modify the above as follows:

The distribution of samples at the site with elevated arsenic concentrations suggest a pattern associated with the water tower similar to the lead concentrations.

**16. Section 5.2, Presence of Arsenic**  
**Page 5-3.**

Please include a statement noting that prior to the removal action one soil sample had a arsenic concentration of 1311 ppm.

**17. Section 5.2, Presence of Arsenic**  
**Page 5-3.**

“Analysis of the paint chip samples shows that arsenic was not a primary ingredient of the paint on the tower suggesting that arsenic was not associated with the paint.”

Arsenic was typically used in paint as a pigment, anti fouling agent, fungicide, etc. Elevated levels of arsenic was found in two paint chips samples. Therefore, please remove this statement from the report.

**18. Section 5.2, Presence of Arsenic**  
**Page 5-3.**

“Overall soil concentrations are within the range of background concentrations”

A report states in Appendix G that the following areas A, B and C are elevated with respect to background; Areas D is not elevated with respect to background. Therefore, please removed the quoted statement and simply state that Areas A, B and C are elevated with respect to background and Area D is not.

**19. Section 5.2, Presence of Arsenic**  
**Page 5-3.**

The report does not recommend any further action with respect to arsenic. The site has been used by the school as a playground. Evidence of a release of arsenic was found during the initial investigations. The current concentrations observed at the site are elevated with respect to regulatory limits. A review of the background study reveals that, at a minimum, site samples in Areas A, B and C are elevated with respect to background. In light of the above the report should recommend further action under CERCLA.

**20. Appendix G,**  
**Page 1.**

Please include a figure depicting current arsenic distribution at the site.

**21. Appendix G,**  
**Page 1.**

Background studies are site specific. As such they must contain all of the information associated with the background sampling stations including a map depicting the locations of the stations, a table listing the concentrations observed in the background stations and descriptive statistics for the background stations. As this is a stand alone document this information must be included in the Appendix (a reference to a previous study is not sufficient).

**22. Appendix G, Section 4-1, Exploratory Data Evaluation**  
**Page 3.**

The report notes that outliers were present in the SeSS data set. As noted in previous correspondence these points cannot be used in a background evaluation. Therefore, please conduct the assessment without the use of these outliers.

**23. Appendix G, Section 4-1, Exploratory Data Evaluation**  
**Page 3, Paragraph 3.**

Distribution analysis was conducted to ascertain the distribution of the site data set. Please include the results of the same distribution test for the background data sets.

**24. Appendix G, Section 4-2, Statistical Methods**  
**Page 3.**

Please include descriptive statistics, (range, average, medium, mode, kutortosis, etc) and list data in ascending concentrations for both the site and background samples.

**25. Appendix G, Section 4-2, Statistical Methods**  
**Page 3.**

The report list a series of test, Student t test, Mann Whittney test, etc. As this is a public document the report should indicate which tests are parametric and which test are non parametric.

**26. Appendix G, Section 4-2, Statistical Methods**  
**Page 3.**

Please provide additional information concerning the upper ranks test, including but not limited to a literature citation for the test employed, the equations used in the test and an example calculation.