



STATE OF MAINE

# DEPARTMENT OF ENVIRONMENTAL PROTECTION

ANGUS S. KING, JR.  
GOVERNOR

EDWARD O. SULLIVAN  
COMMISSIONER

March 8, 1995

Commanding Officer  
Attn: Code 1823/Lt. Conroy  
NORTHNAVFACENCOM  
10 Industrial Hwy, MSC 82  
Lester, PA 19113-2090

**RE: RCRA Facilities Investigation (RFI) Data Gap Report, dated January 1995,  
for Portsmouth Naval Shipyard, Kittery, Maine.**

Dear Jim:

The Department has received and reviewed the draft Data Gap Report. The Department's comments are provided below.

## General Comments

The primary purpose of the RFI Data Gap Report is to provide additional information regarding:

- location and integrity of concrete vaults at Mercury Burial Sites I & II;
- the nature and extent of groundwater contamination at Mercury Burial Site II (SWMU #9), Former Waste Oil Tanks (SWMU #11), JILF Monitoring Well cluster JW-13, and the DRMO (SWMU #6);
- the general hydrologic conditions at the shipyard; and
- the tidal effects on groundwater at the DRMO and JILF.

The report presented a summary of RFI work completed for each of these areas in Section 1; a description of RFI Data Gap field activities in Section 2; results of the facility wide hydrogeologic investigation provided in Section 3; and results of investigations at specific sites in Section 4.

Information, particularly in Sections 2 and 4, is sometimes difficult to follow due to poor organization. For example, MB I re-excavation information can be found in the executive summary and in sections 1.33, 1.4.3, 2.8.1, 2.8.2, 2.9, 2.10, 4.1, figure 2-4, and appendix E test pit log. This organization requires a lot of page shuffling during review. Future

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reporting effectiveness might be enhanced by organizing report sections by subject or SWMU categories. Portions of Section 3 were poorly written, particularly regarding the surface and groundwater hydrology associated with Upper and Lower Meade Ponds.

## Specific Comments

### Executive Summary

1. Assessment for Remediation, Page ES-4, Para 4

It is reported that Total diesel was detected in the shallow bedrock monitoring well and lead was detected in the deep bedrock monitoring. The wells should be identified in the text.

2. Mercury Burial Site I - SWMU #9, Objective, Page ES-5, Para 5

I remember that the TRC as a group decided to remove the concrete pipe. The decision to remove the pipe was not based solely on the decision of the regulatory agencies. Later in the report it is stated that the TRC made the decision to remove the concrete pipe. Please clarify.

If photographs were taken at MBI during the excavation, perhaps copies of these photographs could be incorporated into appropriate reports.

3. Assessment for Remediation, Page ES-6, Para 3

The first sentence in this paragraph does not seem to be a complete sentence.

4. Mercury Burial Site II - SWMU #9, Objective, Page ES-6, Para 4

I recommend that all references to the MEDEP or EPA concerns be removed from this report. I don't understand the benefit of including those statements. Every report is reviewed by the regulatory agencies and the Navy. In addition, the Datagap Report was designed to address EPA concerns as written in their Approval with Conditions. MEDEP comments were not included in that Approval.

5. Summary of RFI Data Gap Field Activities and Results, Page ES-7, Para 2

Were the drum contents characterized? Is so, what did the drum contain?

6. Assessment for Remediation, Page ES-7, Para 3

"Otherwise" doesn't seem to belong in this sentence.

7. Groundwater Contamination Near Mercury Burial Site II, Objective, Page ES-7, Para 4

In the last sentence, how do you determine low and low/moderate exceedances of the MPS?

### Section 1

Note: Comments include questions regarding results and conclusions of RFI information cited in report.

8. 1.1.Purpose of Report, Page 1-1, Para 1

Consider removing "Data Gap" after (RFI) in the first sentence.

9. 1.1.Purpose of Report, Page 1-1, Para 2

Include in the text a reference to the fact that MEDEP comments were not included in EPA's "Approval with Conditions" and that some of MEDEP's comments may not be addressed in the Data Gap Report.

10. 1.2 History and Description of NSY Portsmouth, Page 1-2, Para 2

Referring to Map A, "Thirteen Solid Waste Management Units (SWMUs) that are identified in the facility HWSA Permit and the original RFI and two additional areas of concern are shown for reference."

Please identify the two additional areas of concern.

11. 1.3.1 RFI Investigation, Page 1-3, Para 1

Maine's MEGs should be included when comparing groundwater concentrations to federal standards.

12. 1.3.2 Jamaica Island Landfill (JILF) - SWMU #8, Page 1-4, Para 2

"Elevated concentrations of volatile organic compounds were detected in the groundwater at JW-13B, JW-16, and JW-19 (JW-16 and JW-19 contamination were further investigated via the SWMU #11 investigation at the former waste oil tanks)."

Monitoring Wells JW-19 and JW-16 are located in southwest and northeast portions of the JILF, respectively. Please explain why JW-19 was included in the SWMU #11 investigation?

13. 1.3.3 Mercury Burial Site I (MBI) - SWMU #9, Page 1-4, Para 4

"Fill Material consisted of scrap metal, wood fragments, plastic, and red sand." As part of the RFI, were laboratory analyses performed specifically on the red sand? If so, please identify the analysis performed and include a summary of the results in Section 4.1.1.

14. 1.3.3 Mercury Burial Site I (MBI) - SWMU #9, Page 1-5, Para 2

"Soil Samples from MBI contained heavy petroleum product."

Were these soils analyzed for PCBs? If so, please include a summary of the results in Section 4.1.1.

15. 1.3.3 Mercury Burial Site I (MBI) - SWMU #9, Page 1-5, Para 3

"Although very low concentrations of mercury were detected in groundwater samples throughout the JILF, mercury is most likely associated with the JILF fill material rather than from leakage of the mercury vaults."

Justification for this statement would require a statistical evaluation of mercury concentrations in groundwater collected from JILF monitoring wells. Has such an evaluation been performed?

16. 1.3.4 Mercury Burial Site II (MBII) - SWMU #9, Page 1-5

Please provide the location of investigations associated with MBII on Map A.

17. 1.3.4 Mercury Burial Site II (MBII) - SWMU #9, Page 1-6, Para 2

Was the solvent-like odor attributed to landfill material?

18. 1.3.4 Mercury Burial Site II (MBII) - SWMU #9, Page 1-6, Para 3

"Soil samples were taken and analyzed during excavation activities at MBII."

Was soil sample collection based on photoionization detector (PID) field screening results? If so, please indicate the field screening results.

19. 1.3.4 Mercury Burial Site II (MBII) - SWMU #9, Page 1-6, Para 3

"Both light and heavy petroleum product were detected in subsurface soils."

Were soils analyzed for PCBs? If so, please indicate the results.

20. 1.3.5 Former Waste Oil Tanks (SWMU #11), Page 1-7, Para 2

Finish describing the extent of the soil contamination before describing how it apparently occurred. Staff on site during the tank removals observed gross soil contamination extending in every direction of the excavation. Lead was not the only contaminant detected. MEDEP sampling results indicate that the soil and groundwater was contaminated with a variety of fuel oil, metals and volatile pollutants. (See attached copy of the letter sent to Jim Conroy and a summary table of results) It is our understanding that the removal of soil was terminated for safety and health considerations and because there was no visible end to the contamination.

21. 1.3.5 Former Waste Oil Tanks (SWMU #11), Page 1-7, Para 4

"Chromatographs indicated that a petroleum product was present in several soil samples that were obtained during drilling operations."

Please indicate which analysis (es) were performed to determine the presence of petroleum contamination.

22. 1.4.1 Defense Reutilization and Marketing Office (DRMO) Salvage Yard - SWMU #6, Page 1-11, Para 5

"...for TCL volatile and semivolatile organic compounds, TAL analytes (plus Freon),..."

Rewrite as follows, ... for TCL volatile organic compounds (plus Freon), TCL semivolatile organic compounds, TAL analytes, ...

23. 1.4.7 Facility-Wide Hydrogeologic - Groundwater Investigation, Page 1-15, Para 7

" Selected seeps will be analyzed for salinity via hydraulic conductivity."

Replace "via" with "and" in second bullet.

24. 1.4.8 Facility-Wide Hydrogeology - Pond Investigation, Page 1-15, Para 9

"...for TCL volatile and semivolatile organic compounds, TAL analytes (plus Freon),..."

Rewrite as follows, ... for TCL volatile organic compounds (plus Freon), TCL semivolatile organic compounds, TAL analytes, ...

## Section 2

25. 2.2 Direct Drive Point Technology/Soil Gas Survey, Page 2-2

Please present work performed at MBII and SWMU #11 in separate subsections.

26. 2.2.1 Work Scope, Page 2-2, Para 5

Referring to Figure 2-3, "Also shown are eight test pit locations excavated in support of siting the new Hazardous Waste Disposal Facility (C.T. Male Associates, 1994)."

The test pit locations are not shown on Figure 2-3.

27. 2.2.2 Methodology, Groundwater Sampling, Page 2-9, Para 5

"To collect the groundwater samples, the steel casing was removed following the soil gas sample collection. A 5-foot section of 1-inch-diameter slotted PVC pipe was then connected to one or more 5-foot section(s) of PVC riser pipe and inserted to the full depth of the hole. Once the slotted screen was in place, groundwater was allowed to fill the pipe."

This implies that soil gas samples were collected within the saturated zone of the overburden. It is inappropriate to attempt collection of soil gas in groundwater saturated soils. Soil gas is only available for collection in the vadose zone where unsaturated soils allow migration of gas through interstitial voids.

Soil gas results of samples collected from the saturated zone, and presented in Table 4-2, are misleading since the sampling technique was not appropriate to the technology. It is interesting to note that the highest soil gas results were reported for two locations (MBS-DP3, 1,000 units; MPS-DP15, 900 units) where groundwater was not encountered.

28. 2.3.1 Work Scope, Drilling and Monitoring Well Installation, Page 2-11, Para 4

"Table 2-1 provides a well construction summary for the new wells. Table 2-2 summarizes well construction information for the existing wells..."

The table numbers are reversed. Table 2-1 provides information for existing wells and Table 2-2 provides information for new wells.

29. 2.3.1 Work Scope, Drilling and Monitoring Well Installation, Page 2-12 Para 1

"Table 2-1 provides a well construction summary."

This should be Table 2-2.

30. 2.3.2 Methodology, Overburden Wells, Page 2-14, Para 1

"All samples obtained from the boreholes were monitored with an organic vapor analyzer (HNu) as specified in the Health Safety Plan. Each split spoon sampler was screened immediately upon opening. These readings were recorded on the boring logs."

Head space screening results were not reported on boring logs provided in Appendix A for borings WOT-2, WOT-3, and WOT-4. Each of these logs indicates that "product" was present in soil samples. Please provide information on PID screening results for each of these boring or justification for the lack of screening results.

31. 2.3.2 Methodology, Bedrock Monitoring Wells, Page 2-14, Para 6

"Wells DI-01B and DI-01DB were drilled as per the work plan by drilling and setting a temporary 6-inch casing approximately 5 feet into bedrock."

Please indicate whether a permanent casing was installed for each of these wells.

32. 2.4.2 Groundwater Sampling, Methodology, Page 2-16, Para 2

"Where dissolved metals analysis was required for groundwater or surface water, field filtration was performed. The sample was filtered through a non-metallic 0.45-micron membrane filter immediately after collection."

The MEDEP recommends that water samples collected for metals analysis either not be filtered or collected using low flow techniques.

33. 2.5 Water Level Measurements/Tidal Effects, Water Level Measurements, Page 2-16, Para 3

"Two comprehensive rounds of water level measurements were collected from all existing and new monitoring wells at the site for an updated and more detailed analysis of the groundwater flow patterns and flow gradients across the NSY Portsmouth site."

Please provide dates of measurements and reference location of tabular summary within the report.

34. 2.6 Aquifer Testing, Page 2-18, Para 1

"Hydraulic conductivity was estimated with the Hvorslev method."

Please justify the use of the Hvorslev method over other methods for estimating hydraulic conductivity in overburden and bedrock wells.

35. 2.11.2 Methodology, Page 2-24, Para 6

How were preservatives added to the sample bottle after the bottle was completely filled?

36. 2.11.1 Surface Water Sampling, Scope of Work, Figure 2-6, Page 2-25

Please use arrows to indicate surface water discharge points and flow directions for Upper and Lower Meade Ponds.

37. 2.13.1 Scope of Work, Dye Tracer Study, Page 2-27, Para 2

"Figure 2-7 shows the likely discharge areas which were monitored."

The monitoring points were not obvious on Figure 2-7. Please list the monitoring points within the text in addition to identifying them in Figure 2-7.

38. 2.13.1 Scope of Work, Seep Sampling, Page 2-27, Para 3

"To evaluate salinity, specific conductance was measured in the field."

Please provide sample location identification and indicate where results are provided in the report.

39. 2.13.1 Seep Sampling, Page 2-27, Para 4

This paragraph is confusing as written. It is not clear whether seep sampling was done as part of this study or not. Seeps that emanate from the JILF include seeps located in the back cove, yet it doesn't appear that these seeps were considered. Identify which seep was observed by seep location number, several seeps have been identified in the offshore seep sampling study.

40. 2.13.2 Methodology, Pond Staff Gauges and Piezometers, Page 2-31, Para 1

Please provide the range in surface water depths for Upper and Lower Meade Ponds. At what depth were the piezometers set within the sediments of the ponds?

41. 2.13.2 Methodology, Dye Tracer Study, Page 2-31, Para 3

Please describe the method for releasing the Rhodamine WT to the pond(s).

42. Table 2-3, Page 2-39

Table 2-3 indicates the analytical method for TPH (Diesel Range) is Modified SW 846/8100. However Table 4-10 Page 4-50 indicates the TPH (Diesel Range) Method as SW/8015 (Mod). Please clarify.

**Section 3**

43. 3.2.3 Tritium Sampling, Page 3-6, Table 3-6?

If the unmarked table at the top of this page is Table 3-6 it should be labeled as such. The concentrations listed in this table don't have much relevance to the tritium levels measured because the detection limits were 115 to 124 TU, so that no concentrations below 115 TUs could be detected.

44. 3.2.3 Tritium Sampling, Page 3-6, Para 3

It seems obvious that the conclusion that can be reached is that since there were no detections of tritium (at high detection limits) that groundwater has not been strongly influenced by thermonuclear testing.

45. 3.5.3 Detailed Discussion of Areas of Interest, Seavey Island, Pages 3-12 and 3-23

The description of groundwater and surface water movement in the vicinity of Upper and Lower Meade Ponds is generally confusing to read. It might help if the surface water hydrology of the ponds is discussed separately prior to comparison with groundwater flow. A general description of groundwater flow to and from the ponds (e.g. first sentence of Paragraph 2, Page 3-23) should be followed by specific detail.

Clarification is also required in Paragraph 3, Page 3-23 concerning reference to groundwater and surface water movement.

46. 3.5.3 Detailed Discussion of Areas of Interest, Jamaica Island, Page 3-24, Para 1

"Groundwater flow is also to the west from JW-3 toward JW-14 and JW-13 well clusters."

It is more probable that groundwater in the vicinity of JW-3 flows directly toward Clark Cove.

47. 3.5.3 Detailed Discussion of Areas of Interest, JILF (SWMU #8), Page 3-24,  
Para 3

"Within the overburden near JW-17B, groundwater may diverge and preferentially move to the southeast."

Based on groundwater contours provided on Map D, it is more likely this groundwater flow divergence will occur approximately 100 to 200 feet south of JW-17B.

48. 3.5.3 Detailed Discussion of Areas of Interest, JILF (SWMU #8), Page 3-25,  
Para 2

"The decreased influence on the base-level is especially apparent when the groundwater elevations of JW-13B and JW-13DB are compared. The difference in elevations is about 3.5 feet with an upward vertical gradient."

This assumes interconnection between the deep bedrock well (JW-13DB) and the shallow bedrock well (JW-13B). Map F indicates that tidal influence on JW-13S and JW-13B is approximately the same at 4.2 and 4.1 feet, respectively. No tidal effects were observed in JW-13DB. It is possible that bedrock fractures associated with JW-13DB are not connected to shallower bedrock fractures and therefore would not participate in creating an upward vertical gradient in the vicinity of the well cluster..

49. 3.6.1 General Description of Groundwater Flow, JILF (SWMU #8), Page 3-38,  
Para 4

"From the backchannel, the extent of sea-water intrusion into the northeastern edge of the landfill is indicated by the enclosed 100 foot contour."

There is no groundwater elevation information to justify to presence of the 100 foot contour.

50. 3.6.1 General Description of Groundwater Flow, JILF (SWMU #8), Page 3-38,  
Para 4

"Sea-water does not likely reach well JW-17B by direct transmission from the backchannel through the bedrock. Instead, sea-water travels through the overburden materials to this point."

Please expand this discussion to indicate assumptions. It appears this statement was based on the configuration of groundwater contours relative to historical shorelines and fill areas.

51. 3.7.2 RFI Tidal Study Evaluation, Fuel Oil Spillage Area (SWMU #27), Page 3-36, Para 5

"Near the oil terminal, tidal ranges were reported to be less than 2 feet at MW-3-SW and about 0.2 feet at MW-2-SW."

Please provide a reference for this information.

#### Section 4

52. 4.1.3 Nature and Extent of Contamination, Page 4-1, Para 4

"Mercury was not detected in either soil sample from the concrete pipe."

Table 4-1 indicates mercury was detected at 0.06 J mg/kg and 0.18 J mg/kg. Both of these levels are below the Future Residential Land Use MPS of 5.5 mg/kg.

53. 4.2.2 Summary of RFI Data Gap Field Activities, Page 4-5, Para 4

"One drum was found toward the edge of the excavation. The drum was found to be bent but intact. The drum was placed in an over-pack drum and properly disposed of by the PNS Treatment Storage Disposal Office."

Provide information regarding the character and quantity of material in the drum. All information regarding characterization analyses performed on the drum contents and subsequent results must be provided.

54. Figure 4-1, General Groundwater Contamination, Page 4-3

A concentration level is not indicated with the Total Organic Contamination contour.

55. Figure 4-2, Soil Gas Readings and Soil Exceedances of Media Protection Standards, Page 4-7

Soil gas sample locations should be provided with contour indicating Soil Gas > 300.

56. 4.3.3 Nature and Extent of Contamination, Page 4-10, Para 1

"Soil gas readings indicated only two locations with soil gas readings greater than 300 µg/L; both of these readings were from direct drive point mini-wells that did not produce water."

57. See comment 2.2.2 Methodology, Groundwater Sampling, Page 2-9, Para 5.

58. 4.4.3 Nature and Extent of Contamination, Page 4-12, Para 4

"Also of note, no free product was measurable with an interface probe at any of the wells."

Please indicate the time allowed for the monitoring wells to equilibrate prior to measuring for free product. Boring logs provided in Appendix A indicate the presence of "product" in soils collected from WOT-2, -3, and -4. The boring log for WOT-4 indicated "product saturated" soils collected at 10- to 12-feet below ground surface. In addition, Table 4-5 indicated "free product" was encountered at direct drive point location WOT-DP10.

59. 4.4.4 Assessment for Remediation, Page 4-13, Para 6

"Remediation may be considered for the SWMU #11 groundwater. Potential concerns include fuel oil and TPH contamination."

Additional organic contamination of concern also includes the presence of 2-Butanone (a.k.a. Methyl Ethyl Ketone) at 2,000,000 µg/L (0.2%) in WOT-2.

60. 4.6.3 Nature and Extent of Contamination, Page 4-15, Para 6

"Volatile organics or semi-volatile organics were not detected in the DW-07 well cluster. Also, no TICs were detected in the well cluster, nor gasoline and diesel oil."

This statement is not accurate. Table 4-10 indicates total diesel was detected at 160 J µg/L in DW-07DB.

61. 4.8.3 Nature and Extent of Contamination, Page 4-19, Para 5

"Beryllium was present at low levels [and] presumed to be naturally occurring."

Please provide references to justify this statement.

62. Table 4-2, Direct Drive Point Results, Page 4-23

Please provide units for soil gas results. Please provide field sheets/notes in Appendix.

63. Table 4-3, Subsurface Investigation at Proposes Hazardous Waste Consolidation and Storage Facility, Page 4-25

Please provide test pit logs in Appendix or reference report containing test pit logs.

64. Table 4-5, Direct Drive Point Results, Page 4-29 thru 4-31

Please provide units for soil gas results. Please provide field sheets/notes in Appendix.

65. Table 4-7, Groundwater Analytical Results - Organics, Page 4-34 thru 4-35

Assessment for Remediation subsections in Section 4 indicated that "concentrations did not exceed Media Protection Standards (or drinking water standards where Media Protection Standards were not provided)."

Groundwater Media Protection Standards - Future Residential Use should include MEGs or MCLs, whichever level is more stringent. It is unclear why compounds that have an MCL or an MEG were assigned an "NA" MPS.

66. Table 4-8, Groundwater Analytical Results - Tentatively Identified Compounds (TICs), Page 4-37 thru 4-44

Please provide quantitative results for detected compounds. Analytical results should also be provided in Appendix H.

67. Table 4-9, Groundwater Analytical Results - Inorganics, Page 4-45 thru 4-49

Assessment for Remediation subsections in Section 4 indicated that "concentrations did not exceed Media Protection Standards (or drinking water standards where Media Protection Standards were not provided)."

Please provide drinking water standards for comparison with compounds listed in table.

68. Table 4-11, Former Waste Oil Tanks (SWMU #11).Haz. Waste Storage Facility, Soil Analytical Results - Organics, Page 4-52 thru 4-58

Please provide field notes in Appendix.

69. Table 4-12, Former Waste Oil Tanks (SWMU #11).Haz. Waste Storage Facility, Soil Analytical Results - Tentatively Identified Compounds (TICs), Page 4-59 thru 4-66

Please provide quantitative results for detected compounds. Analytical results should also be provided in Appendix H.

## Maps

70. Map B. NSY Portsmouth Topographic Map

Please provide an explanation for number in parentheses next to each well location in the legend. The MEDEP assumes this is a ground surface elevation, however, it is not stated as so. Please apply this comment to the remaining maps.

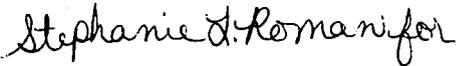
## Appendices

71. Appendix H. Analytical Results

For ease of identification, please provide subsections for soil and groundwater results in addition to organic and inorganic results

If you have any comments or questions, please call me at 207-287-2651. Thank you.

Sincerely,



Nancy Beardsley  
Remedial Project Manager  
Office of the Commissioner

attachment: Site 11 sampling results

pc: Ernie Waterman, USEPA  
Fran Endyke, PNS  
Mark Hyland, MEDEP  
Richard Heath, MEDEP

DDRO19403-30



STATE OF MAINE

DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN R. McKERNAN, JR.  
GOVERNOR

DEAN C. MARRIOTT  
COMMISSIONER

DEBRAH RICHARD  
DEPUTY COMMISSIONER

March 30, 1994

Lt. Jim Conroy  
Remedial Project Manager  
Department of the Navy/Northern Division  
Naval Facilities Engineering Command  
10 Industrial Highway Mail Stop #82  
Lester, PA 19113-2090

RE: Department Sampling Results at Site 11, Portsmouth Naval Shipyard  
Kittery, Maine

Dear Jim:

Attached are the analytical results from the 6/13/89 sampling event at Site 11 following the tank removals. Also included is a site map and Chain of Custody forms. Soil samples were collected from the sidewalls of the excavation. One groundwater sample was collected at Site 2 (see site map).

The site map shows the approximate locations of the two sampling sites. Soil samples were analyzed for the presence of volatile priority pollutants, metals, Acid/Base/Neutrals, and PCBs. The groundwater sample was analyzed for volatile priority pollutants. Table 1 is a summary of the analytical results.

Please call me at 207-287-2651 if you have any questions regarding these comments.

Sincerely,

*Nancy Beardsley*

Nancy Beardsley  
Remedial Project Manager, Federal Facilities Unit  
Office of the Commissioner

attachments

pc: Jim Tayon, PNSY  
Ernest Waterman, USEPA

**TABLE 1**

	Soil Site 1	Soil Site 2	Groundwater Site 2
<b>Metals</b>			NA
Cadmium	800	1000	
Chromium	40000	46000	
Mercury	1200	1000	
Nickel	58000	94000	
Lead	11000000	960000	
<b>Acid Extractables</b>			NA
Fluorophenol 2	**	**	
<b>Base Neutral</b>			NA
Acenaphthene	J2500	J1900	
Anthracene	J2000	K10000	
Benzyl Alcohol	K10000	*	
Bis(2-ethylhexyl)phthalate	K10000	16000	
Chloroaniline 4	K10000	*	
Fluoranthene	J2400	J2500	
Fluorene	11000	K10000	
Naphthalene	J3300	J4700	
Nitroaniline 2	K10000	*	
Nitroaniline 3	K10000	*	
Nitroaniline 4	K10000	*	
Phenanthrene	K10000	J5600	
Pyrene	J9400	J2600	
D8 Naphthalene	**	**	
Fluoroaniline 2	**	**	
<b>Aroclor</b>			NA
Aroclor 1254	J900	K400	
Aroclor 1260	J400	K400	
<b>Vol Priority Pollutants</b>			
Vinyl Chloride	K 50	200	20
Trichlorofluoromethane	260	1740	11
Trans 1,2 Dichloroethene	K 50	110	44
Trichloroethene	K 50	K 50	7
Tetrachloroethene	K 50	90	9
Toluene	K 50	50	12
Ethyl Benzene	K 50	220	8
Chlorobenzene	K 50	K 50	
Total Dichlorobenzenes	130	490	J360
Acetone	K 50	K 50	J240
Methyl Ethyl Ketone	K 50	K 50	J1400
Total Xylenes	50	290	60
Freon 113	150	11000	J2300
1,2Dichloro-1,1,2Trifluoroethene	J70	J150	K5
Chloro Trifluoroethylene	J520	NR	NR
Trifluoroethylene	K 50	1320	K5
Methyl Cyclohexane	NR	J80	NR
C3 Benzenes	K 50	80	K5

Results are listed in PPB

## Comment Descriptions

K Less than the value reported

NR Not Reported

NA Not Analyzed for those parameters

\* Detection limit not determined for these compounds

\*\* Some components of sample extract were too concentrated to concentrate sample to 1 ml, therefore surrogates were not seen

\*\*\*\* Some of the Priority Pollutants can be seen below our stated detection limit and are given J values because of quantification at these levels have large variations

Soil sample for site 1 contained a series of hydrocarbons C12-C22 which resembles either weathered #1 or #2 fuel oil at an approximate concentration of 1,900,000 PPB.

Soil sample for site 2 contained similar hydrocarbons. No concentrations were calculated for this sample.