



DEPARTMENT OF THE NAVY

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NAVAL FACILITIES ENGINEERING COMMAND
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Ms. Kymberlee Keckler
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Subj: RESPONSES TO USEPA COMMENTS OF JANUARY 5, 1999 REGARDING
THE DRAFT EXISTING DATA SUMMARY REPORT FOR THE BASEWIDE
GROUNDWATER OPERABLE UNIT REMEDIAL INVESTIGATION DATED
DECEMBER 1998 FOR THE NAVAL SUBMARINE BASE NEW LONDON,
GROTON, CT

Dear Ms. Keckler:

Thank you for reviewing the Draft Existing Data Summary Report
for the Basewide Groundwater Operable Unit dated December 1998
for the Naval Submarine Base New London.

The Navy's responses to your comments are attached. If you have
any other questions or comments please do not hesitate to contact
me at (610) 595-0567 ext. 162.

Sincerely,

Mark Evans
By direction of the
Commanding Officer

Copy to:
Mr. Mark Lewis, CTDEP
Mr. Dick Conant, NSB-NLON
Mr. Corey Rich, Tetra Tech NUS - Pittsburgh

**RESPONSES TO USEPA's JANUARY 5, 1999 LETTER OF COMMENTS
REGARDING THE DECEMBER 1998 EXISTING DATA SUMMARY REPORT FOR
THE BASEWIDE GROUNDWATER OPERABLE UNIT REMEDIAL INVESTIGATION
NAVAL SUBMARINE BASE - NEW LONDON, GROTON, CONNECTICUT**

February 22, 1999

GENERAL COMMENTS (Cover Letter)

General Comment No. 1, p. i, Second ¶

The report provides a good overview of previous site investigations and their implications for basewide groundwater contamination. In general, the remaining data gaps identified in the report for further investigation in the Basewide Groundwater OU RI are well supported.

Response to General Comment No. 1

Agreed. No further action is required in response to this comment.

General Comment No. 2, p. i, Third ¶

In a letter dated July 29, 1997, EPA enumerated specific data requests to be incorporated in the Basewide Groundwater OU RI Work Plan. In general, the spirit of these requests is embodied in the recommendations presented in the Data Summary Report. However, the Data Summary Report is rather broad and generic in its recommendations. EPA data requests outlined in the July 29, 1997 letter should be covered specifically in the more detailed Work Plan/Sampling and Analysis Plan (WP/SAP). Please add these specific recommendations.

Response to General Comment No. 2

The Navy will provide specific details regarding additional field work, sampling, and analyses in the Basewide Groundwater OU RI WP/SAP. The USEPA's recommendations for additional field work, sample collection activities, and sample analyses, provided in their July 29, 1997 letter, will be considered during development of the WP/SAP. Scientific (e.g., site-specific historical and recent analytical data), and risk ranking information will also be considered by the Navy during development of the Basewide Groundwater OU RI WP/SAP.

General Comment No. 3, p. i, Fourth ¶

The Data Summary Report includes a screening assessment to identify Chemicals of Potential Concern (COPCs). The text states that COPCs are identified, in part, on the basis of "... likely contaminant migration pathways" (page 1-17, §1.4.2), and emphasizes "... the potential impact of contamination in each medium of concern on groundwater." In this case, EPA recommends that you include mobile contaminants identified as COPCs in soil on the list of COPCs for the underlying groundwater, even in the event that such constituents have not been detected in groundwater

sampling to date. This would allow for some “coupling” of the media via potential transport processes. For example, TCA appears on the COPC list for soils and for bedrock groundwater at the same site, but does not pass the screening for overburden groundwater. The screening procedure should be reviewed to identify constituents that are present at significant concentrations in soils and that are relatively mobile in solution, so that they can be listed as chemicals of potential concern for groundwater. The fact that such compounds have not been detected in sampling to date (particularly in areas of sparse monitoring well coverage) does not imply that the contaminants are unlikely to be present in groundwater when there is evidence that they are available to water infiltrating through overlying soils.

Response to General Comment No. 3

The screening level assessment provided in the Existing Data Summary Report (EDSR) was completed using existing analytical data and conservative screening level criteria. Soil and sediment analytical data were screened against pollutant mobility criteria. Groundwater (overburden and bedrock) and surface water data were screened against direct exposure and surface water protection criteria. Because of the screening methodology, all of the COPCs (i.e., soil, sediment, surface water, and groundwater) identified during the assessment are COPCs for groundwater.

The results of the screening level assessment are media-specific; however, the site-specific recommendations sections tie together the results of the media-specific COPC screening level assessments to indicate what media and COPCs should be further evaluated for a site. The recommendations of the EDSR will be reviewed for consistency and expanded as necessary. In addition, all of the results from the site-specific COPC screening assessments will be considered by the Navy during development of the Basewide Groundwater OU RI WP/SAP.

General Comment No. 4, p. ii, Second ¶

Risk-based screening values were used to identify groundwater COPCs in this data gaps analysis. It is unclear, however, whether future groundwater sampling will be limited to the identified COPCs. Where additional sampling is recommended, the suite of analytes should not be limited to only the COPCs identified for the specific sites in this existing data summary report, in order to ensure that the groundwater at each site is fully characterized.

Response to General Comment No. 4

The Navy intends to use the results of the COPC screening analysis provided in the EDSR to determine the categories of contaminants that should be analyzed for during the RI. For example, if the results of the screening indicate that trichlorethene is a COPC then future samples at this site will be analyzed for TCL VOCs. Similarly, if semivolatile compounds, pesticides/PCBs, or inorganics are identified as COPCs for a site, then future samples will be analyzed for TCL SVOCs, TCL Pesticides/PCBs, or TAL Metals, as appropriate.

If the USEPA is advocating by its comment that all new groundwater samples should be analyzed for a full suite of analytical parameters (i.e., TCL VOCs, TCL SVOCs, TCL Pesticides/PCBs, and TAL Metals) the Navy disagrees with this approach. This approach eliminates the need for developing an EDSR, disregards relevant historical information, and is not cost-effective. The Navy

believes that the amount and quality of historical, site-specific information should be factors that are considered to determine the analytical suite for future sampling and analytical programs. This approach would result in comprehensive sampling and analytical programs at those sites which have no historical data or data of limited quality. Conversely, the approach would result in limited, data-gap sampling and analytical programs for those sites that have ample historical data of sufficient quality.

Further discussions between the Navy, USEPA, and CTDEP are required to resolve this comment.

General Comment No. 5, p. ii, Third ¶

Concern has emerged recently nationwide for ammonium perchlorate contamination at sites where weapons components have been stored and maintained. Given the presence of the Weapons Center adjacent to the Area A Wetland and the Torpedo Shops adjacent to the Downstream Watercourses, it should be determined whether ammonium perchlorate has ever been present in weapons at these sites. If so, it should be added to the analyte list for groundwater monitoring downgradient.

Response to General Comment No. 5

Records pertaining to the weapons stored and maintained at the Area A Weapons Center and the Torpedo Shops were reviewed and Navy personnel working at these sites were interviewed. The results of the records search and interviews indicate that ammonium perchlorate is a compound associated with the explosives charges used in torpedoes. However, no maintenance of the explosives charges are currently completed at NSB-NLON, and therefore it is unlikely that the compound has been released to the environment. To verify this hypothesis, ammonium perchlorate will be added to the analyte list for the Groundwater OU RI at the Area A Weapons Center and Torpedo Shops.

The recommendations for the Area A Weapons Center will be revised to indicate that additional sampling and analysis is required for this site. Please also see the Response to Specific Comment No. 15.

SPECIFIC COMMENTS (Attachment A)

Specific Comment No. 1; p. 2-39, §2.3.2.5

The text states (first paragraph) that Figure 2-3 shows the locations of the nine Phase II RI surface water samples. However, the figure appears to show only monitoring-well, test-boring, and staff-gauge locations. Please check the figure and text for consistency.

Response to Specific Comment No. 1

The nine Phase II RI surface water sample locations were inadvertently left off of Figure 2-3. Figure 2-3 will be revised to show the nine Phase II RI surface water sample locations. The revised figure will be included in the final EDSR.

Specific Comment No. 2; p. 2-45, §2.3.4.2

The discussion of historical groundwater analyses notes that arsenic was detected in well 2WMW21S, screened in the overburden, at 138 ppb. The forthcoming groundwater OU RI should include an assessment of geochemical conditions relevant to the mobility and transport of inorganics, with particular emphasis on arsenic and lead. In particular, the RI should include the usual field measurements of oxidation-reduction potential (ORP), pH, and dissolved oxygen (DO), as well as an assessment of the potential role of the bedrock as a source of inorganics (e.g., arsenic and lead sulfides). The impact of the capped Area A Landfill on the geochemistry of groundwater flowing beneath it and discharging to the wetland, and its influence on the mobility of inorganics should be assessed. Adequate monitoring well coverage at discharge areas for water flowing under the landfill to the wetland should be assured, as noted in the recommendations (§2.3.7). For these purposes, the current EPA "low-flow" sampling protocols should be followed, and at least one round of filtered samples should also be taken for comparison, so that some assurance can be given that the analyses truly reflect dissolved phase inorganics.

Response to Specific Comment No. 2

The Basewide Groundwater OU RI will evaluate geochemical conditions relevant to the mobility and transport of inorganics, in particular arsenic and lead. An appropriate analytical program to evaluate geochemical conditions in the groundwater will be developed and included in the WP/SAP for the Groundwater OU RI. The USEPA and CTDEP will have the opportunity to provide input on the analytical program during the review cycle of the WP/SAP. At a minimum the parameters mentioned in the comment (i.e., ORP, pH, and dissolved oxygen) will be included on the analytical list for groundwater for the Basewide Groundwater OU RI. The current EPA "low-flow" sampling protocols will be followed for all groundwater sampling activities for the RI.

As recommended in the EDSR, the Navy plans to collect geologic unit-specific groundwater samples to develop background concentrations for inorganics. This unit-specific sampling program, in conjunction with the geochemical parameters requested by the USEPA, should provide sufficient information to determine if bedrock is the source of inorganics in the groundwater.

The impact of the Area A Landfill and the recently installed cover system on the geochemistry of the groundwater flowing beneath it and discharging to the Area A Wetland will be assessed as part of the Groundwater Monitoring Program for the landfill. A draft final version of the plan was submitted to the USEPA on January 6, 1999.

Specific Comment No. 3; p. 2-54, §2.3.7

Please refer to EPA letter of July 29, 1997, for specific recommendations for well installation, monitoring, and sampling of the Area A Wetland.

Response to Specific Comment No. 3

The July 29, 1997 letter from the USEPA recommends the following actions be taken at the Area A Wetland:

- Install three overburden/bedrock well clusters (10, 11, and 12) along the western, downgradient end of the wetland. The locations of the clusters are shown on Figure 1 that is included with the letter.
- All groundwater samples collected from these wells should be analyzed for TCL Pesticides.

The Navy believes that the USEPA's recommendations are not justifiable for this site. The historic groundwater data for the Area A Wetland indicates that little groundwater contamination exists at the site. The data does not suggest that further investigations of the groundwater are necessary as part of the Basewide Groundwater OU RI.

The Navy does believe that this site should proceed to a Feasibility Study and a Limited Action scenario that includes groundwater monitoring should be evaluated for this site. The groundwater monitoring program will verify that contamination detected in the soil and sediment of the Area A Wetland is not migrating downgradient. Therefore, the Navy will consider the USEPA's recommendations provided in their July 29, 1997 letter during development of the groundwater monitoring program for this site. The USEPA will be able to provide additional input on the program during the review cycle for the monitoring program report.

Specific Comment No. 4; p. 2-56, §2.4.2.1

The text refers to the 1982 Envirodyne study of Area A (Site 2). Please clarify in the text the relationship of this designation to the present site designations. The text should specify whether the 1982 Area A (Site 2) includes the Area A Downstream Watercourses and OBDA. This is indicated in section 2.4.2.3 for the later (1990-1992) Atlantic study. These changes in designations should be clarified in the text where they first appear.

Response to Specific Comment No. 4

In the Final Initial Assessment Study report completed by Envirodyne Engineers (March 1993), Site 2 refers to the Area A Landfill, Area A Wetland, and Area A Downstream Watercourses and Site 3 refers to the Overbank Disposal Area. The text of Section 2.4.2.1 will be revised so that Sites 2 and 3 are accurately defined.

Specific Comment No. 5; p. 2-63, §2.4.4

The text states, "Analytical results for surface water samples will not be discussed because this medium will also no longer be a potential source of contamination for groundwater after the contaminated sediments are removed." The surface water could receive contaminants from upgradient areas via the culverts through the dike, or via discharging groundwater. It was stated in section 2.4.3.4 that, "There are downward gradients throughout most of Site 3." The downward flow could carry contamination from surface water to groundwater. Such a scenario may prove to be unlikely, given what is known about the groundwater and surface water quality upgradient in the Area A wetland area. However, the case should be made that the Site 3 surface water need not be discussed in this context.

Response to Specific Comment No. 5

The sites that are hydraulically upgradient of Site 3 (i.e., the Area A Downstream Watercourses and OBDA) and could impact the quality of the surface water at this site are the Area A Wetlands, Area A Landfill, Area A Weapons Center, and the Torpedo Shops. Each of these sites is going through or has gone through the CERCLA RI/FS process and appropriate measures will be taken or have been taken at each site to minimize future contaminant migration that would impact the quality of the Site 3 surface water. The last sentence of Section 2.4.4 will be revised as follows:

“Analytical results for surface water samples will not be discussed because this medium will also no longer be a potential source of contamination for groundwater after the contaminated sediments from the Area A Downstream Watercourses are removed and the appropriate remedial actions are taken for the Installation Restoration Program sites (i.e., Area A Landfill, Area A Wetlands, Area A Weapons Center, and the Torpedo Shops) located hydraulically upgradient of Site 3.”

Specific Comment No. 6; p. 2-63, §2.4.4.1

The text states, “Groundwater samples were not collected from the OBDA (Site 3B),” presumably in reference to the Phase I and II RIs and the FFS, results from which section 2.4.4 summarizes. Are not wells 3MW12S and 3MW12D considered to be within the OBDA? Results from 3MW12D from the Phase II RI are referred to on page 2-65 (“Bedrock Wells,” paragraph 2). Please clarify in the text.

Response to Specific Comment No. 6

No monitoring wells were installed within the limits of the former waste material considered to be the OBDA. This waste material was formally located on the south western side of the dike from the Area A Wetland, but it was removed during a removal action completed in 1997 concurrent with installation of the Area A Landfill cap. Wells 3MW12S, 3MW12D, and 2DMW11S are downgradient of the former OBDA site and groundwater samples from these wells should indicate potential impacts from the site. The first two sentences of Section 2.4.4.1 will be revised as follows to clarify this issue:

“Groundwater samples from both overburden and bedrock wells installed within the Area A Downstream Water Courses (Site 3A) and downgradient of the OBDA (Site 3B) were collected during previous investigations.”

Specific Comment No. 7; p. 2-63, §2.4.4.1

The detection of 1,2-DCE and vinyl chloride at 2DMW29S is suggestive of degradation of chlorinated solvents (PCE, TCE). This appears to be consistent with the statements regarding a possible source from the Torpedo Shops leach field (i.e., the DCE and VC found downgradient could be degradation products from historic releases of VOCs in that area). See also section 2.4.5.1. An assessment of the fate and transport of the chlorinated VOCs, including verification of potential source areas, as well as possible degradation processes, should be included in the Basewide Groundwater OU RI.

Response to Specific Comment No. 7

Agreed. An assessment of the fate and transport processes affecting the chlorinated VOCs detected in the groundwater at Area A Downstream Watercourses and Torpedo Shops will be included in the Basewide Groundwater OU RI. The last sentence of Section 2.4.7 Recommendations will be revised as follows:

“Therefore, it is recommended that additional groundwater sampling and analyses be performed in support of the Basewide Groundwater OU RI to determine the source and extent of the VOCs and the fate and transport processes affecting the VOCs in both the overburden and bedrock aquifers.”

Specific Comment No. 8; p. 2-71, §2.4.7

EPA concurs that the VOCs found warrant further characterization. This should not be considered an issue that is closed out under the Area A Downstream/OBDA ROD. It appears that it may be a different problem (e.g., transport from the Torpedo Shop leach field area).

Response to Specific Comment No. 8

Agreed. See the Response to Specific Comment No. 7.

Specific Comment No. 9; p. 2-71, §2.4.7

Additional monitoring well coverage should be considered for the area immediately northwest of the dike separating the Area A Wetland and Site 3, perhaps in the area of the former Over Bank Disposal Area (OBDA). This area is a “focus” for groundwater from the Area A Wetland and its surroundings, and an area of likely upward gradients and groundwater discharging to surface water. Existing wells 3MW12S and 3MW12D provide some coverage, but an additional well cluster approximately 250 feet upgradient (closer to the dike) should be considered in order to monitor groundwater at a “gateway” between major domains of the basewide flow system. (Obviously, a shallow well is relevant only if any significant overburden remains following the OBDA removal.)

Response to Specific Comment No. 9

The Navy plans to install an overburden well (3MW37S) in the general area requested by the USEPA for the Area A Landfill Groundwater Monitoring Program (TtNUS, January 1999). The USEPA did not previously request that an overburden/bedrock well cluster be installed in this location as part of the monitoring program.

Further discussions are required between the Navy, USEPA, and CTDEP to resolve this issue.

Specific Comment No. 10; p. 2-71, §2.4.7

Please refer to EPA letter of July 29, 1997, for specific recommendations for well installation, monitoring, and sampling for the Area A Downstream Watercourses and OBDA.

Response to Specific Comment No. 10

The July 29, 1997 letter from the USEPA recommends the following actions be taken at the Area A Downstream Watercourses:

- Install three overburden/bedrock well clusters (1, 2, and 3) along the northern side of the site. The locations of the clusters are shown on Figure 1 that is included with the letter. All groundwater samples collected from these wells should be analyzed for TCL VOCs.
- Install two overburden/bedrock well clusters (4 and 5) along the southern side of Triton Avenue. The locations of the clusters are shown on Figure 1 that is included with the letter. All groundwater samples collected from these wells should be analyzed for TCL VOCs.
- Install three overburden/bedrock well clusters (13, 14, and 15) just north/northwest of the Upper, Lower and OBDA Ponds. The locations of the clusters are shown on Figure 1 that is included with the letter. All groundwater samples collected from these wells should be analyzed for TCL Pesticides.
- Install six overburden/bedrock well clusters (16, 17, 18, 19, 20, and 77) along the western side of the site. The locations of the clusters are shown on Figure 1 that is included with the letter. All groundwater samples collected from these wells should be analyzed for TCL Pesticides.

The Navy agrees that additional wells should be installed and sampled to delineate the extent and determine the source of the VOC contamination detected in the existing wells downgradient of the Torpedo Shops. The Navy will develop a WP/SAP for the RI that will provide the details of their proposed monitoring locations. The overburden and bedrock monitoring well locations proposed by the USEPA for delineating the VOC plume (i.e., 1 through 5) will be considered during development of the WP/SAP. It is likely that cost effective approaches for delineating the plume (e.g., installation of temporary monitoring wells) in the overburden aquifer will be recommended in the WP/SAP. Once the extent of the plume is determined, permanent overburden monitoring wells will be installed for long-term monitoring. All bedrock wells installed will be permanent.

The Navy disagrees with USEPA's recommendation to install 18 additional permanent wells as part of the Basewide Groundwater OU RI to determine the nature and extent of pesticide contamination at this site. Historical data does not indicate that pesticides have migrated from site sediments or soil to the groundwater. Therefore, none of the proposed 18 wells should be installed at this site during the upcoming Basewide Groundwater OU RI. In addition, the contaminated soil and sediments at this site will be remediated in the near future which will eliminate the potential for future contaminant migration.

Specific Comment No. 11; p. 2-83, §2.5.7

EPA concurs that monitoring is appropriate, and can be coordinated with the monitoring for landfill cover performance.

Response to Specific Comment No. 11

Agreed. No further action is required in response to this comment.

Specific Comment No. 12; p. 2-93, §2.7.4

The text states that contamination of sediment and surface water at the Torpedo Shops "... is not expected to impact the groundwater at this site...." The basis for this conclusion should be presented in more detail, as the previous section notes that the site is a recharge area, with downward gradients prevailing throughout. Thus, it appears to be possible that contaminated sediment and surface water could impact groundwater.

Response to Specific Comment No. 12

Agreed. Additional text will be provided in the final EDSR to document the conclusion that surface water and sediment are not expected to impact groundwater.

Specific Comment No. 13; p. 2-104, §2.7.7

EPA concurs that better characterization of organics (especially chlorinated VOCs) is warranted. Further sampling under the Basewide Groundwater OU is appropriate. Both 1,1-DCA and 1,1-DCE have been detected in a number of downgradient wells (see page 2-95, §2.7.4.2), which may be degradation products from TCA and TCE or higher parent compounds from the source area. The Groundwater OU RI should include an assessment of transport pathways for these VOCs. The recommendations explicitly mention the need for further characterization of the overburden groundwater. Further characterization of the bedrock should also be included, as this appears to be a potential source area for contamination of groundwater in fractured bedrock, given the thin to absent overburden and the prevalence of downward gradients.

Response to Specific Comment No. 13

Agreed. The recommendations for this site will be revised to indicate that groundwater from both the overburden and bedrock should be investigated during the upcoming Basewide Groundwater OU RI.

Specific Comment No. 14; p. 2-116, §2.9.2.2

In the paragraph describing sediment and surface-water sampling, the text states, "All sample locations are shown on Figure 2-8." It appears, however, that Figure 2-8 shows only test boring and groundwater monitoring well locations. The figure and text should be consistent.

Response to Specific Comment No. 14

Agreed. These sampling locations were inadvertently left off of Figure 2-8. Figure 2-8 will be revised to show the sediment and surface water sampling locations. The revised figure will be included in the final EDSR.

Specific Comment No. 15; p. 2-120, §2.9.4.2

Chlorinated VOCs (1,1,2-TCA, 1,2-DCE, and TCE; cf., Table 2-27) were detected in bedrock monitoring well 2WMW4D. The levels detected were low (1-2 ppb, compared to MCLs for these compounds of 5 ppb), and detections were infrequent (1 of 3 bedrock wells in Site 20). The chlorinated VOCs passed the screening criteria for COPCs for bedrock groundwater, but not for primary COPCs. The report recommends (page 2-127, §2.9.7) that no further groundwater sampling be performed in support of the Basewide Groundwater OU RI. Although the chlorinated VOC levels detected do not appear to be a matter of great concern, it is noted that 2WMW4D is on the upgradient side of the site (see Drawing 4). Possible sources for the chlorinated VOCs in bedrock groundwater could exist. A stronger case should be made for neglecting further characterization in this area and the area upgradient. Is there any evidence of historic use or storage of solvents in this area or along the perimeter road above the area?

Response to Specific Comment No. 15

There are no known sources (historic or existing) for the chlorinated solvents detected in this well. To address the USEPA's concern, the Navy proposes to re-sample wells 2WMW4S and 2WMW4D during the Basewide Groundwater OU RI and analyze the samples for TCL VOCs to confirm the detections. The recommendations for the Area A Weapons Center in the EDSR will be modified to reflect this change in approach. The need for additional actions for the site, such as further characterization, will be determined once the new data is available.

Please also see the Response to General Comment No. 5.

Specific Comment No. 16; Tables

Tables 2-3, 2-6, 2-7, 2-10 - 2-16, 2-19, 2-20 present the COPC screening for groundwater samples from overburden and bedrock wells and surface water for each of the sites. The Region III RBCs that were used for chromium (18 ug/L) and manganese (84 ug/L) do not correspond with those in the most recent Region III RBC Table (11 ug/L and 73 ug/L), respectively. The value for chromium should correspond with the appropriately conservative assumption that all of the detected chromium is chromium VI. (USEPA Region I. *EPA New England Risk Updates*. Number 3. Risk-Based Screening of Contaminants for Human Health Risk Assessment. August 1995. And USEPA Region III. *Risk-Based Concentration Table*. October 1, 1998).

Tables 2-10 to 2-12 present the COPC screening for Site 2B- Area A Wetland for overburden wells, bedrock wells, and surface water respectively. None of the samples in any of these areas were analyzed for pesticides. Due to the historic use of this site, "pesticide blocks" were used regularly on the pond in the wetland area, characterization of the pesticides in the groundwater should be considered by additional sampling with analysis for pesticides.

Response to Specific Comment No. 16

The current Region III RBC table, dated October 1, 1998, was released after statistical analysis of the data and preparation of the tables for the EDSR had been performed. The previous Region III RBC table, dated April 1, 1998, was used in preparation of the EDSR. The RBC used for chromium (18 ug/L) does correspond with the value provided for hexavalent chromium in the April 1, 1998 RBC table. The RBC used for manganese (84 ug/L) corresponds with the value provided in an older version (October 22, 1997) of the RBC table. The use of this value for manganese was an oversight.

However, as the following table indicates, the use of the current values for hexavalent chromium (11 ug/L) and manganese (73 ug/L) would have minimal affect on the outcome of the screening-level assessment in the EDSR, affecting only the COPC selection for overburden wells at Site 2B and for bedrock wells at Site 4. The selection of chromium as a COPC for Site 2B and the selection of chromium and manganese as COPCs for Site 4 would have no impact on the recommendations made for these sites. Therefore, the EDSR will not be revised based on these updates for chromium and manganese. However, the updated RBCs for chromium and manganese will be used in the upcoming Basewide Groundwater RI.

Table Number	Filtered vs Unfiltered Samples	Does Maximum Concentration Exceed Criterion?					
		Chromium (ug/L)			Manganese (ug/L)		
		Maximum	RBC - 18	RBC - 11	Maximum	RBC - 84	RBC - 73
2-3	Unfiltered	1.6	No	No	527	Yes	Yes
2-3	Filtered	ND	No	No	520	Yes	Yes
2-6	Unfiltered	142	Yes	Yes	2570	Yes	Yes
2-6	Filtered	6.7	No	No	2010	Yes	Yes
2-7	Unfiltered	32.5	Yes	Yes	1360	Yes	Yes
2-7	Filtered	3.9	No	No	1350	Yes	Yes
2-10	Unfiltered	13.8	No	Yes	9270	Yes	Yes
2-10	Filtered	ND	No	No	9360	Yes	Yes
2-11	Unfiltered	4.9	No	No	7160	Yes	Yes
2-11	Filtered	ND	No	No	7090	Yes	Yes
2-12	Unfiltered	6.8	No	No	1870	Yes	Yes
2-12	Filtered	ND	No	No	571	Yes	Yes
2-13	Unfiltered	84.6	Yes	Yes	6710	Yes	Yes
2-13	Filtered	ND	No	No	6620	Yes	Yes
2-14	Unfiltered	22.1	Yes	Yes	7110	Yes	Yes
2-14	Filtered	ND	No	No	7630	Yes	Yes
2-15	Unfiltered	ND	No	No	16.1	No	No
2-15	Filtered	ND	No	No	16.1	No	No
2-16	Unfiltered	12.6	No	Yes	80.1	No	Yes
2-16	Filtered	ND	No	No	16.1	No	No
2-19	Unfiltered	35.2	Yes	Yes	1760	Yes	Yes
2-19	Filtered	ND	No	No	1780	Yes	Yes
2-20	Unfiltered	104	Yes	Yes	7830	Yes	Yes
2-20	Filtered	ND	No	No	3530	Yes	Yes

As discussed in Sections 2.3.2.3 and 2.3.2.5 of the EDSR, all groundwater samples collected from the Area A Wetland during the Phase I RI and all surface water samples collected from the Area A Wetland during the Phase I and Phase II RIs were analyzed for pesticides and PCBs. Analytical results for these samples are provided in Sections A.4.3 and A.5.1 of Appendix A of the EDSR. As noted in Sections 2.3.4.2 and 2.3.4.3 of the EDSR, neither pesticides nor PCBs were detected in any of the Area A Wetland groundwater or surface water samples. Therefore, additional sampling and analysis of groundwater and surface water samples for pesticides is not necessary.

Specific Comment No. 17; p. 3-1, §3.1.2

The text states that no sampling was carried out as part of the IAS in 1983. It appears that the same statement holds for subsequent basewide investigations (e.g., the Phase I and II RIs). If so, this should be stated for completeness.

Response to Specific Comment No. 17

Agreed. A sentence will be added to Section 3.1.2 that indicates the Hospital Incinerator site was not investigated during either the Phase I or Phase II RIs.

Specific Comment No. 18; p. 3-3, §3.1.7

The report recommends development of a sampling and analysis program for Site 16, and, appropriately, leaves the details open. Soil and groundwater are mentioned specifically as likely targets of the investigation. It is suggested that sediments associated with drainage structures also be considered for sampling.

Response to Specific Comment No. 18

Agreed. The recommendations for this site will be revised to indicate that sediment from the surface water drainage structures will also be sampled during the RI.

Specific Comment No. 19; p. 4-1, §4.1.1

The legend for Figure 4-1 shows an incorrect symbol for the Phase I monitoring wells. It appears from the map that the correct symbol is a circle with a complete cross.

Response to Specific Comment No. 19

Agreed. The symbol for Phase I monitoring wells shown on Figure 4-1 will be corrected.

Specific Comment No. 20; p. 4-9, §4.1.4.2

The text (under Overburden Wells, first paragraph) refers to well 8MW3S. Figure 4-1, as well as Table 4-3, show only a well designated 8MW3. Please check for internal consistency.

Response to Specific Comment No. 20

Figure 4-1 only shows the location of monitoring well 8MW3, but Table 4-3 presents data for both 8MW3 and 8MW3S. The inconsistency is the result of the different sample nomenclature used for the Phase I and Phase II RIs. The designation of 8MW3S was used during the Phase I RI and 8MW3 was used during the Phase II RI. There is also a similar discrepancy with the sample nomenclature for well 8MW4.

The text of the report will be revised to eliminate the inconsistency. The following note will be placed in parentheses after references to 8MW3S or 8MW4S:

“(Note that 8MW_S is shown on Figure 4-1 as 8MW_)”

Specific Comment No. 21; p. 4-18, §4.1.7

Please refer to EPA letter of July 29, 1997, for specific recommendations for well installation, monitoring, and sampling for the Goss Cove Landfill area.

Response to Specific Comment No. 21

The July 29, 1997 letter from the USEPA recommends the following actions be taken at the Goss Cove Landfill site:

- Install four overburden/bedrock well clusters (26, 27, 28, and 29) along Crystal Lake Road and Military Highway adjacent to the dry cleaners. The locations of the clusters are shown on Figure 1 that is included with the letter.
- Install three overburden/bedrock well clusters (30, 31, and 32) north of the main intersection to NSB-NLON. The locations of the clusters are shown on Figure 1 that is included with the letter.
- Install three overburden/bedrock well clusters (33, 34, and 35) within the landfill area. The locations of the clusters are shown on Figure 1 that is included with the letter.
- All groundwater samples collected from these wells should be analyzed for TCL VOCs. In addition, existing monitoring wells 8MW8S, 8MW7S, and 8MW4 should be sampled and analyzed for TCL VOCs.

The Navy disagrees with the USEPA's recommendations for the following reasons:

- The Connecticut Department of Environmental Protection (CTDEP) has completed an investigation of a source of PCE that is upgradient of the Goss Cove Landfill (i.e., the dry cleaners).
- Preliminary results from the investigation indicate that this is the source of the PCE detected in the bedrock at Goss Cove Landfill.

The report should be issued by the CTDEP in February of 1999. Recommendations for further sampling at this site will be finalized once the report is received and evaluated. The Navy does not intend to complete further investigations of the PCE if the source of PCE is shown to be an upgradient source. The Navy will discuss its final recommendations for this site with the USEPA and CTDEP.

Specific Comment No. 22; p. 4-19, §4.1.7

EPA agrees with the recommendation in the report to characterize the PCE in bedrock further.

Response to Specific Comment No. 22

Please see the Response to Specific Comment No. 21.

Specific Comment No. 23; p. 4-31, §4.3.5.1

The report states, "...The analytical results presented in the previous section do not appear to indicate the vertical migration of contaminants...." It is noted (Table 4-5) that lead was detected in well 15MW3S at 21.2 ppb, above the federal MCL of 15 ppb. The possible relationship of lead in groundwater to lead in the site soil (prior to removal) should be discussed. Is there reason to believe that the lead in groundwater is unrelated to the SASDA? Acknowledging that the likely principal source has been removed, what is the expected fate of lead already present in groundwater?

Response to Specific Comment No. 23

The analytical result in question is from an unfiltered groundwater sample collected during Round 1 of the Phase II RI. The filtered sample associated with this same round showed non-detect (1.5 U ppb) levels of lead in the groundwater. The analytical results for the Round 2 sampling event at this well also showed non-detect levels of lead in both the filtered (2 U ppb) and unfiltered (4.4 U ppb) samples. Therefore, the detection of lead at 21.2 ppb in this well is most likely the result of suspended sediments in the unfiltered sample. In addition, because the lead was not detected in the groundwater in the dissolved phase it is unlikely that lead is migrating via the groundwater. Text discussing this information will be incorporated into Sections 4.3.4.1 and 4.3.5.1 of the EDSR.

Specific Comment No. 24; p. 4-34, §4.3.6

The report notes that the existing monitoring wells "... can be sampled, if necessary, during the Basewide Groundwater OU RI..." The existing wells should be sampled for the Basewide Groundwater OU RI in order to verify that contaminant concentrations are stable or declining, and to characterize the chemistry of the groundwater that is advected further downgradient.

Response to Specific Comment No. 24

The last sentence in the recommendations for this site (Section 4.3.7) will be revised as follows:

“The existing wells (except for 15MW4S which was destroyed) should be sampled and analyzed during the Basewide Groundwater OU RI to determine chemical concentrations in the groundwater upgradient of the Tank Farm (Site 23).”

Furthermore, the bulleted item in Section 4.3.6 will be revised as follows so that the text is consistent:

“The monitoring wells installed during the previous investigation of this site still exist and should be sampled during the Basewide Groundwater OU RI.”

Specific Comment No. 25; p. 4-57, §4.5.7

The report recommends further characterization of PCE in bedrock, possibly originating from a source area near the base entrance. EPA agrees with the recommendation to further characterize PCE in bedrock.

Response to Specific Comment No. 25

Please see the Response to Specific Comment No. 21.

The Navy believes that this same dry cleaner could be a source of PCE to the Tank Farm site. Recommendations for this site will be revised appropriately once the CTDEP’s report is received and evaluated. The Navy will discuss its final recommendations for this site with the USEPA and CTDEP.