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JUN 13 1997

Ms. Kymberlee Keckler
Remedial Project Manager
U.S. Environmental Protection Agency
J.F.K. Federal Building (HBT)
Boston, MA 02203-2211

SUBJ: RESPONSES TO USEPA COMMENTS OF APRIL 10, 1997 ON THE DRAFT WORK PLAN AND SAMPLING ANALYSIS PLAN FOR THE LOWER SUBASE REMEDIAL INVESTIGATION AT THE NAVAL SUBMARINE BASE NEW LONDON, GROTON, CT

Dear Ms. Keckler:

Thank you for reviewing the Draft Work Plan and Sampling Analysis Plan for the Lower Subase Remedial Investigation dated March 1997 for the Naval Submarine Base New London. The Navy's responses to your April 10, 1997 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
Remedial Project Manager
By direction of the
Commanding Officer

Copy to:
Mr. Mark Lewis, CTDEP
Mr. Andy Stackpole, NSB-NLON
Mr. Corey Rich, Brown & Root - Pittsburgh

PREPARED BY

NORTHNAVFACENGCOM 5211/2 Rev (7/96)

RESPONSES TO
USEPA'S APRIL 10, 1997 LETTER OF COMMENTS
REGARDING THE
MARCH 1997 DRAFT WORK PLAN AND SAMPLING ANALYSIS PLAN
FOR THE LOWER SUBASE REMEDIAL INVESTIGATION
NAVAL SUBMARINE BASE, NEW LONDON
GROTON, CONNECTICUT

Specific Comment No. 1 p. 1-16, §1.4.1.1

The current sampling proposal does not include analysis for lead in surface soil or deep soil samples collected from Zones 5 and 7. This does not satisfy the data quality objective of providing sufficient data for the human health risk assessment. All soil samples should be analyzed for lead.

Also the total number of shallow and deep samples (historic and proposed) with lead analytical data within other zones may not satisfy the objective of providing sufficient data for the human health risk assessment. EPA's Technical Review Workgroup for Lead has developed a model for use in evaluating risks associated with non-residential adult exposures to lead in soil (EPA 1996), based on the Bowers et al. (1994) adult lead model. This 1994 EPA model is recommended for use in EPA Region I for evaluating non-residential, adult exposure to lead in soil. This model requires that the arithmetic mean soil value be input instead of the 95 percent upper confidence limit on the mean or instead of a maximum value. Therefore, a sufficient number of soil samples must be collected to ensure that the calculated mean represents the true mean soil concentration of the area under evaluation. Based on EPA (1992), the number of samples required to accurately characterize the mean is approximately twenty or greater.

Response to Specific Comment 1

The historical data for Zone 5 does not indicate that lead is a contaminant of concern in the soil or groundwater media (i.e., concentrations in soil are less than 400 mg/kg and concentrations in groundwater are less than 15 μg/L). It is recommended in the *Existing Data Summary Report* (B&R Environmental, 1997) that confirmation sampling and re-analysis of the soil samples by the Synthetic Precipitation Leachate Procedure (SPLP) be conducted to confirm the mobility of lead. Historical TCLP results indicate that lead is potentially mobile because concentrations exceeded Connecticut's Pollutant Mobility Criteria for GB classified groundwater (i.e., 150 μg/L). However, it should be noted that none of the TCLP lead concentrations exceeded the Federal Toxicity Characteristic Regulatory Level for lead. Therefore, to address the recommendations of the *Existing Data Summary Report* and the USEPA's concern on meeting the Data Quality Objective, the Navy proposes the following changes to the Lower Subase RI Work Plan and Sampling and Analysis Program (WP/SAP) for Zone 5:

- Move soil boring TB1-5RI northwest so that it will be adjacent to 19SS1 and 19MW4.
- Move soil boring TB6-5RI north so that it will be adjacent to 19MW2.

- Collect shallow (2 to 4 feet) and deep (10 to 12 feet) soil samples at the two boring locations. Analyze the shallow samples for TPH, TCL SVOCs, TAL metals, and SPLP lead and analyze the deep samples for TCL SVOCs, TAL metals, and SPLP lead.

The historical data for Zone 7 does indicate that lead is a contaminant of concern in the soil or groundwater media (i.e., concentrations in soil are greater than 400 mg/kg and concentrations in groundwater are greater than 15 μg/L). It was recommended in the *Existing Data Summary Report* (B&R Environmental, 1997) that confirmation sampling and re-analysis of the soil samples by SPLP be conducted to confirm the mobility of lead. It was also recommended that additional sampling and analysis be completed to determine the nature and extent of lead in soils and groundwater. Therefore, to address the recommendations of the *Existing Data Summary Report* and the USEPA's concern on meeting the Data Quality Objective, the Navy proposes the following changes to the Lower Subase RI WP/SAP for Zone 7:

- Move soil boring TB6-7RI south so that it is along the same groundwater flow line that transects 20MW5 and 20MW6. Install a monitoring well at this location. Collect shallow (2 to 4 feet) and deep (10 to 12 feet) soil samples. Analyze the shallow sample for TPH, TCL SVOCs, TAL metals, and SPLP lead and analyze the deep sample for TCL SVOCs, TAL metals, and SPLP lead. Collect a groundwater sample from the monitoring well and analyze it for TPH, TCL SVOCs, TAL metals, and natural attenuation parameters.

- Install 1 additional soil boring at a location that is approximately half way between the existing hot spots of lead. This location is approximately 90 feet north of Building 157 and 80 feet east of Building 456. Collect shallow (2 to 4 feet) and deep (10 to 12 feet) soil samples. Analyze the shallow sample for TPH, TCL SVOCs, and TAL metals and analyze the deep sample for TCL SVOCs and TAL metals.

- Install 1 additional soil boring just east of Building 106. Collect shallow (2 to 4 feet) and deep (10 to 12 feet) soil samples. Analyze the shallow sample for TPH, TCL SVOCs and TAL metals, and analyze the deep sample for TCL SVOCs and TAL metals.

- Analyze the shallow and deep soil samples to be collected from boring TB-10-7RI for TPH, TCL SVOCs, TAL metals and SPLP lead and TCL SVOCs, TAL metals and SPLP lead, respectively.

The USEPA's newly adopted model for assessing adult exposures to lead was reviewed and evaluated. The methodology, model, and default parameter values contained in the *Recommendations of the Technical Review Workshop for Lead for an Interim Approach to Assessing Risks Associated with Adult Exposures to Lead in Soil (December, 1996)* will be used in the baseline human health risk assessment for the Lower Subase. Section 1.5.1 of the Lower Subase RI WP/SAP will be revised accordingly.

An arithmetic average lead concentration will be calculated per zone and used to assess potential exposure, as per the cited guidance. It is agreed that a sufficient number of samples should be collected so that the calculated arithmetic average lead concentration is representative of the true average soil concentration. The reference cited by USEPA

(*Supplemental Guidance to RAGS: Calculating the Concentration Term, Publication 9285.7-081, Volume 1, Number 1, May 1992*) states that:

> "data sets with fewer than 10 samples per exposure area provide poor estimates of the mean concentration (i.e., there is a large difference between the sample mean and the 95 percent UCL), while data sets with 10 to 20 samples per exposure area provide somewhat better estimates of the mean, and data sets with 20 to 30 samples provide fairly consistent estimates of the mean (i.e., the 95 percent UCL is close to the sample mean)."

The reference does not indicate that 20 or greater samples are required by the USEPA to estimate the 95 percent UCL; it only provides the numbers of samples as a general observation based on various types of data sets.

In general, the number of samples required to accurately characterize the mean is largely dependent upon the distribution and variance of the data set, the acceptable decision errors set for obtaining a specific goal or objective, and the size of the area under investigation. The USEPA (*Final Guidance for the Data Quality Objectives Process, EPA QA/G-4, Quality Assurance Management Staff, September 1994*) recommends specific equations for estimating the number of samples. This rigorous approach provides reasonable estimates of the number of samples required for investigations. However, the number of samples estimated by these equations can range significantly depending on the acceptable decision errors, the selection of parameters, and the standard deviation of the historical data set. The equations are also limited because they do not account for spatial variability of sample locations.

Therefore, because of the limitations of the USEPA's methods for determining sampling numbers, the Navy believes that its approach to determining the number and location of the proposed samples (i.e., professional judgment and the results of the geostatistical analysis) is appropriate for the Lower Subase RI. The lack of lead analysis in the sampling programs for Zones 5 and 7 was an oversight, and as discussed above, several samples are now proposed to be collected and analyzed for lead and SPLP lead. It is expected that the revised sampling program, discussed above, will adequately characterize potential lead exposures in these zones.

Specific Comment No. 2 p. 1-21, Zones 1-4

In the decision rule development, it is unclear when additional sampling will occur. Recommendations for Zones 1-4 suggest the following: if a SVOC hot spot that does not coincide with a TPH hot spot is identified, conduct further sampling and analysis to delineate the SVOC hot spot. No provision for such additional testing is outlined in the SAP. Please clarify.

Response to Specific Comment 2

Based on existing knowledge of the types of sources of contamination at the Lower Subase, it is unlikely that an SVOC hot spot will be identified that does not coincide with a TPH hot spot. The Navy believes that the proposed sampling program for the Lower Subase RI, in conjunction with the historical data, will be sufficient to complete the Lower Subase RI. In the unlikely event that additional sampling and analysis is necessary, it will be conducted as part of a data gap investigation for the Feasibility Study (FS) or Remedial Design (RD). A statement will be added to Section 1.4.1.1 and Section 2.1 that indicates any additional sampling and analysis will be done as part of the FS or RD.

Specific Comment No. 3 Figure 1-4

Soil sampling and analysis to delineate the TPH hot spot around the fuel line along Albacore Road was recommended on page 10-5, Section 10.4, second bullet of the Lower Subase Background Report. While additional soil sampling is being performed in Zone 2, only two sampling points are located next to the hot spot. Please explain how this recommendation will be addressed and whether sufficient information on semivolatile constituents will be collected through these two samples.

Response to Specific Comment 3

The TPH hot spot in question is approximately 90 feet by 50 feet. There are currently 4 monitoring wells (13MW17, 13MW10, NESO6 and NESO4 of Zone 1) which surround the hot spot to south, east and north; there were 2 soil borings completed, one in the middle (GS-22L) and to the north (GS-24L) of the hot spot; and the Thames River borders the area to the west. TPH was measured at each of these sampling locations.

Due to the proximity of the hot spot to the existing fuel line, it is very likely that the fuel line is the source of contamination and fuel oils are comprised mainly of SVOCs. Therefore, the detections of TPH should correlate well with the results of future SVOC analysis.

Based on the size of the hot spot, the existing sampling locations and data, and the good potential for correlation between the existing TPH results and future SVOC results, the Navy believes that the 2 proposed soil borings, to the north and south of the hot spot, are adequate. The shallow and deep soil samples collected from these two borings will be analyzed for TCL SVOCs and the shallow soil samples will be analyzed for TPH.

No further action is necessary in response to this comment.

Specific Comment No. 4 p. 2-9, §2.4.2

Please provide the slot size opening to screens.

Determine the chloride and total dissolved solids levels in the groundwater. Will high levels of either of these parameters cause bentonite to swell and cause the seal to be incomplete? If so, how can this be avoided or corrected?

Response to Specific Comment No. 4

B&R Environmental SOP GH-2.8, Groundwater Monitoring Point Installation, provides the details of typical monitoring well installation. This SOP will be included in the revised Lower Subase RI WP/SAP. The SOP recommends a screen slot size of 0.010 or 0.020 inch. It also indicates that the field geologist will specify the combination of screen slot size and sand pack which will be compatible with the water-bearing zone, to maximize groundwater inflow and minimize head losses and movement of fines into the well.

The concentration of chloride in groundwater samples is currently proposed to be measured during the Lower Subase RI as part of the suite of natural attenuation parameters. Measurement of the total dissolved solids levels in groundwater will not be necessary (See the discussion below).

It has been shown that the effectiveness of bentonite may be reduced in groundwater that exhibits high total dissolved solids, high chloride content, and several classes of contaminants (i.e., xylene, acetone, acetic acid, aniline, ethylene glycol methanol heptane, some chlorinated solvents and some petroleum hydrocarbons). The monitoring wells to be installed during the Lower Subase RI will intersect the water table. During a majority of the time the proposed bentonite seal will be above the water table and outside of the influence of groundwater with high levels of chloride or total dissolved solids. However, the Thames River does influence the groundwater table at the Lower Subase and it is possible that, on occasion, the bentonite seal could be inundated with groundwater with high chloride content or total dissolved solids.

Because of USEPA's concern about the use of bentonite seals, an alternative monitoring well construction method that uses a secondary filter pack is proposed for construction of the Lower Subase monitoring wells. A secondary filter pack is a layer of material placed in the annulus between the primary filter pack and the bentonite seal. The secondary filter pack should be uniformly graded fine sand with 100 percent by weight passing the No. 30 U.S. Standard sieve, and less that 2 percent by weight passing the 200 U.S. Standard sieve. The secondary filter pack will be unaffected by high total dissolved solids, high chloride content, or the class of contaminants and is also as easy to install as the bentonite seal. Therefore, the text of the Lower Subase RI WP/SAP and the appropriate B&R Environmental SOPs will be revised accordingly.

Specific Comment No. 5 p. 2-6, §2.3.5

Sediment sample SW/SD4-5 RI at the outlet of the culvert that drains Area A Downstream should also be analyzed for pesticides.

Response to Specific Comment No. 5

The Navy agrees that sediment sample SD4-5RI should be analyzed for TCL Pesticides. The appropriate changes will be made to the text and tables of the LOWER SUBASE RI WP/SAP.

Specific Comment No. 6 p. 2-6, §2.3.6

Since limited historical data is available for Zone 6, it is questionable whether the proposed samples will be sufficient for the human health risk assessment. One of the five proposed borings is not located within the Zone 6 boundary and appears to be potentially out of the site's influence. Only five deep and five shallow soil samples are proposed for Zone 6. Therefore, only four deep and four shallow samples will be available for the human health risk assessment. Please provide a contingency for potential additional Phase 2 sampling.

Response to Specific Comment No. 6

The Navy believes that the proposed sampling program for this zone is fairly comprehensive for the size of the area being investigated. It should also be noted that contamination is not expected to be present at the site, therefore it is not prudent to collect a large number of samples from the site.

In regards to the USEPA's comment on the proposed upgradient well, it is common practice and typically required by the USEPA that an ugradient sampling location be included in a sampling and analysis program. This sampling location will provide valuable information for comparison to sampling locations downgradient of Building 174.

The Navy concedes that there is the potential that additional sampling will be required for Zone 6. Therefore, a contingency plan for additional sampling during Phase 2 of the investigation will be added to the LOWER SUBASE RI WP/SAP.

Specific Comment No. 7 p. 2-10, §2.4.3

No surface water sample collection for chemical analyses is proposed in the Work Plan. Storm water sampling of outfalls during storm events should be considered.

In the response to EPA comments on the Background Review Report dated March 26, 1997, the Navy proposed a tiered approach to surface water samples and shellfish cage studies (see response to General Comment 4). This approach must be included in the RI Work Plan.

Response to Specific Comment No. 7

The Navy currently collects and analyzes samples of storm water discharging to the Thames River along the Lower Subase as part of their NPDES permit. The results of these analyses will be included in the Lower Subase RI Report. In addition, the Lower Subase RI WP/SAP will be

revised to include a tiered approach to surface water sampling and shellfish cage studies as recommended in the *Existing Data Summary Report* (B&R Environmental, 1997).

Further discussion is required between the Navy and the USEPA on the topic of storm water sampling at outfalls during storm events. The Navy believes that the chemical concentrations measured in the outfalls would not be representative of the exposure concentrations a human or ecological receptor could be exposed to in the Thames River. Therefore, this type of sampling will provide limited information that can be directly applied to preparation of an RI or an FS.

Specific Comment No. 8 p. 2-18, Table 2-1

Both shallow and deep soil matrices list the analyte "SPLP Metals" with a method reference of "SW 846 1312." However, SW 846 1312 is the method for the extraction procedure only. The referenced method does not include a standard list of metal analyses to be performed. Please revise the shallow and deep soil sections of the table to include the list or group of metals analyses to be performed and the appropriate method references for the metals analyses.

The method reference listed in Table 2-1 for TCL VOC analysis is the same for groundwater and soil. However, the volatile analysis for groundwater samples should use low-level methodology. Please specify the low detection level TCL VOC method for groundwater samples.

The proposed method for the water quality parameters is listed as "B&RE SOP SA 1.1." However, this reference is not included. Since this is not a standard method reference, the reference should be included in the footnote of the table. The SOP SA 1.1 is for groundwater sampling and onsite water quality testing. The footnote should also clarify that these parameters will be field tested and not laboratory analyzed.

It is assumed that analyses for soil and sediment samples will be reported on a dry weight basis. Methodology for performing the percent solids analysis should be included in the table for these matrices.

Response to Specific Comment No. 8

Section 1.3.2.2 (Laboratory Parameters) of the Quality Assurance Project Plan (QAPP), Table 2-1 and Table 2-4 of the LOWER SUBASE RI WP/SAP will be changed to indicate the following:

- Soil samples that are collected from Zone 6 and are analyzed by SPLP will be followed by TAL metals analysis.
- Soil samples that are collected from Zones 1, 2, 3, 4, 5 and 7 and are analyzed by SPLP will be followed by lead analysis only.

The appropriate footnotes will be added to Tables 2-1 and 2-4 of the LOWER SUBASE RI WP/SAP

Table 2-1 will be revised to indicate low-concentration analysis for TCL VOCs in groundwater. Other tables in the LOWER SUBASE RI WP/SAP and the QAPP will also be revised accordingly.

B&R Environmental SOPs SA 1.1 and SA 1.2 are both included in Appendix B of the Lower Subase RI WP/SAP. SOP SA 1.1 is for groundwater sampling and SOP SA 1.2 is for surface water sampling. SOP SA 1.2 references SOP SA 1.1 for the equipment and method for measuring water quality parameters. This reference is made because the equipment and methods used for measuring water quality parameters are typically not unique to the medium (i.e., groundwater or surface water) being sampled. The reference included in Table 2-1 will be changed to B&R Environmental SOP SA 1.2 and a footnote will be added to the table indicating that these measurements will be completed in the field.

A footnote will be added to Table 2-1 indicating that percent solids will be determined for shallow soil, deep soil, and sediment using CLP protocol.

Specific Comment No. 9 p. 2-19, Table 2-1

The proposed method for ammonia analysis is listed as "Modified EPA 350.1." However, there is no explanation regarding how the method will be modified to accommodate a sediment sample. This modification should be clarified in the SAP.

Response to Specific Comment No. 9

Solid samples will be prepared for analysis for ammonia using Standard Method 4500-NH_3 B, using 5 g of sample and 250 ml of deionized water. The distillate will then be analyzed using Method 350.1. Details of this modification will be provided in a footnote to Table 7-2 of the QAPP (Appendix C).

Specific Comment No. 10 p. 2-21, Table 2-2

Zone 1 Groundwater Samples. The table indicates that the analytical parameters for Zone 1 Groundwater Samples include a "Bio" analysis. However, there is no reference to or inclusion of a "Bio" analysis in the Environmental Sample Summary (Table 1). If "Bio" refers to a microbiological analysis, specify the microbiological parameter and method reference in the Environmental Sample Summary (Table 1) for groundwater samples for all applicable zones.

Response to Specific Comment No. 10

"Bio" was intended to indicate natural attenuation parameters. It is agreed that this notation is misleading and confusing. Table 2-2 will be revised. "Bio" will be replaced with "Nat. Att." A footnote to Table 2-2 will also be included that defines "Nat. Att."

Specific Comment No. 11 p. 2-32, Table 2-3

Groundwater Analysis Methods, Bottle Requirements, Preservative Requirements and Holding Times applicable to Zones 2, 3, 4, 5, 6, and 7 groundwater samples. Preservation requirements for TCL Volatile Organic Compounds in groundwater should include the requirement that vials be filled to zero-headspace capacity.

Groundwater Analysis Methods, Bottle Requirements, Preservative Requirements and Holding Times. Preservation requirements for dissolved metals should specific that samples will be filtered before preservation with HNO_3.

Groundwater Analysis Methods, Bottle Requirements, Preservative Requirements and Holding Times. Preservation requirements for TCL Volatile Organic Compounds in soil/sediment should be expanded to include the requirement that containers be filled as close to zero-headspace capacity as possible.

Response to Specific Comment No. 11

A zero headspace requirement for groundwater samples will be added to the "Preservation" column of Table 2-3.

A footnote will be added to Table 2-3 to indicate that samples for dissolved metals analysis will be filtered in the field prior to preservation with HNO_3.

A zero to minimal headspace requirement for soil/sediment samples will be added to the "Preservation" column of Table 2-3.

Specific Comment No. 12 p. 2-35, Table 2-4

Trip Blanks for TCL VOC analysis should be analyzed using the sample methodology that will be used for the associated samples. Trip Blanks associated with groundwater samples should be analyzed using low-level methodology. Trip Blanks associated with soil and sediment samples can be analyzed using routine methodology.

The table indicates that Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses will be performed for all laboratory analyses. However, performance of MS/MSD analyses is not applicable or appropriate for all analytes. QA/QC analyses for analytes such as pH and grain size include only a duplicate analysis. Table 2-4 should be modified to indicate the

performance and frequency of duplicate analyses where appropriate and to eliminate the reference to MS/MSD where appropriate.

The method reference for ammonia in sediment is incorrectly listed as "Modified EPA 310.1." The correct method reference (as indicated in Table 2-1) is "Modified EPA 350.1." The ammonia method reference in Table 2-4 should be corrected.

The method reference for Hydrogen Sulfide is missing from this table. It should be added to correspond to the reference provided in Table 2-1.

Response to Specific Comment No. 12

Solid samples to be analyzed for TCL VOCs and groundwater samples to be analyzed for low-concentration TCL VOCs will likely be contained in the same cooler for shipment to the laboratory. Therefore, to be conservative, all trip blanks will be analyzed for VOCs using low-concentration protocol. A sentence will be added to the first footnote of Table 2-4 indicating that all trip blanks will be analyzed using low-concentration protocol.

A footnote, indicating parameters for which matrix spike analysis is not applicable, will be added to Table 2-4. The appropriate references to MS/MSD will also be eliminated.

The method reference for ammonia in Table 2-4 will be corrected to read Modified Method 350.1.

Based on subsequent discussions between the Navy and the USEPA, sediment samples will not be analyzed for hydrogen sulfide. Therefore, all references to hydrogen sulfide analysis will be deleted from the Lower Subase RI WP/SAP.

Specific Comment No. 13 p. 2-36, Table 2-4

Footnote 7 indicates that the method reference for ammonia for the natural attenuation analysis is EPA 350.2. However, Footnote 4 from Table 2-1 list that method reference as EPA 350.4. This discrepancy should be corrected in both sets of footnotes as appropriate.

Response to Specific Comment No. 13

The reference to EPA 350.4 in Table 2-1 was a typographical error. The method reference for ammonia in Tables 2-1 and 2-4 will be revised to EPA 350.1 since this method is consistent with the method specified for soil samples, and a similar or lower detection limit can be achieved with EPA 350.1 as opposed to EPA 350.2.

Specific Comment No. 14 **Appendix B**

Currently the procedure for measuring free product thickness is only briefly described in the Work Plan. Please include an SOP for free product thickness measurement.

Response to Specific Comment No. 14

Agreed. There is only a brief description of the procedure for measuring free-phase product thickness in the Lower Subase RI WP/SAP. Based on historical information, the petroleum products expected to be found at the Lower Subase are No. 2 and No. 6 fuel oils. No. 2 fuel oil generally has a specific gravity less than water, where as No. 6 fuel oil can have a specific gravity greater than water. With this information in mind, the following text will be included in the Lower Subase RI WP/SAP to enhance the description of free-phase product thickness measurements.

> "The thickness of free-phase product in a well shall be measured by two methods, an interface probe and a clear bailer. The measurements will be done under static conditions prior to any purging or removal of water or free-phase product from the monitoring well. The depth to the top and bottom of the free-phase product will be measured using a hydrocarbon interface probe. The interface probe will be used to detect free-phase product at both the water table and at the bottom of the each well because there is the potential that some of the petroleum products at the Lower Subase may have a specific gravity greater than water. Interface probes (e.g., Keck, ORS, or Solinst brand meters) emit a single tone when the probe is in the free-phase product and an intermittent tone when the probe reaches water. A clear 3-foot long by 2-inch diameter disposable bailer will be used to collect a free-phase product sample in order to confirm the interface probe measurement and to visually observe and describe the free-phase product. The bailed free-phase product shall be examined for thickness, layering, color, color gradation, coagulation, and apparent viscosity.
>
> The interface probe shall be decontaminated as described in Section 2-7, between each well measurement to minimize cross-contamination. All measurements will be referenced to the top of the riser pipe. All appropriate measurements, observations and calculations will be recorded in the field notebook and the groundwater sample log sheets. Any bailed free-phase product will be placed into a temporary container in order to transport it, without spillage, to a designated on-site containment system (i.e., 55 gallon drum)."