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Project Number 1703

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Ms. Kymberlee Keckler
Remedial Project Manager
U.S. Environmental Protection Agency
Waste Management Division
J.F. Kennedy Federal Building
Boston, Massachusetts 02203

Subject: Responses to Comments: Draft On - Shore SASE Work Plan for Derecktor Shipyard, Naval Education & Training Center, Newport, Rhode Island

Dear Ms. Keckler:

On behalf of the Navy, I am forwarding four copies of the responses to comments to the On - Shore SASE Work Plan for Derecktor Shipyard.

These comments were received on May 20, 1995. The RIDEM issued comments to the Navy on June 23, 1995. Responses were prepared concurrently to assure consistency with regulatory requests and concerns. Therefore, we are currently anticipating a delivery of the Draft Final SASE Work Plan on or before September 15, 1995.

If you have any questions regarding this transmittal, please do not hesitate to contact me.

Very truly yours,

Stephen S. Parker
Project Manager

SSP:gmd

Enclosures (4)

c: B. Krivinskas, NORTHDIV (w/enc.)
T. Bober, NORTHDIV (w/enc.)
B. Wheeler, NETC (w/enc.)
M. Turco, HNUS (w/enc.)
File 1703-3.2 (w/enc.)

RESPONSES TO COMMENTS FROM
THE U.S. ENVIRONMENTAL PROTECTION AGENCY
ON THE
DRAFT WORK PLAN FOR
SITE ASSESSMENT SCREENING EVALUATION AT
DERECKTOR SHIPYARD, NETC NEWPORT

GENERAL COMMENTS:

Comment: *The on-shore site assessment screening evaluation must characterize the biology/ecology of the site and explain why ecological risk was not evaluated. The work plan should include a plan to evaluate whether habitat at the site could support terrestrial receptors. One method to determine whether ecological receptors occur on-site is by a site walkover by a qualified ecologist who can characterize the presence or absence of biology/ecology on-site and evaluate whether potential habitat, ecological receptor(s), and a complete exposure pathway may exist on-site.*

Response: Both the USEPA and the Rhode Island Department of Environmental Management noted the request to evaluate ecological risk at Derecktor Shipyard. While an extensive investigation is currently being pursued for the marine environment in Coddington Cove and the risks relating to the Derecktor Shipyard, the risks to terrestrial receptors (with the exception of avian species) will not be evaluated as a part of that study.

Therefore, the Navy concurs with this concern, and the Draft Final SASE Work Plan will state the approach for development of a conceptual model for potential ecological risk to the terrestrial environment. The approach for field evaluations will be presented in Section 3.7 and the approach for development of the conceptual model will be presented in Section 5 of the Draft Final Work Plan

Comment: *It is unclear how the onshore and offshore investigative results will be evaluated with regard to the potential effects to Coddington Cove from both the direct and groundwater discharges in the vicinity of Derecktor Shipyard. The work plan needs to explain how this data will be jointly evaluated.*

Response: The SASE will determine potential former contaminant flow paths in an effort to determine the recipients of contaminants which were suspected and known to be discharged at the site. The Off Shore Ecological Risk Assessment will evaluate the effects of contaminants from the shipyard on the marine environment in Coddington Cove.

The findings which will be described in the fate and transport sections of the on-shore SASE report will be evaluated in conjunction with the findings of the off shore sediment and biota sample analysis. This evaluation will be made to identify completed exposure pathways to the off shore receptors. In addition, the conceptual model for the terrestrial ecosystem (as stated in the response to the previous comment, above) will be linked to the third and fourth tiers of the off shore conceptual model, presented in Draft Final Addendum B - Off Shore Ecological Risk Assessment for Derecktor Shipyard (URI GSO July 28, 1995).

Comment: *The report should discuss where bilge water was pumped out and its relationship to sample locations. Bilge water is a source of contaminants and could help in selecting sample locations.*

Response: The PA report describes a pit or lagoon where bilgewater from the drydocks was discharged, and this location is scoped for sample collection (proposed location of MW-5). This point will be clarified in the appropriate sections of the Draft Final SASE Work Plan.

Comment: *For quality assurance, a minimum of ten percent of the samples screened in the field should be confirmed with the same analyses in the laboratory. The results of these analyses typically can be obtained in less than 48 hours from the time of receipt and used to determine if the field screening data are reliable.*

Response: A frequency of 20 percent of the samples screened was selected for confirmation with laboratory analysis (i.e.. one laboratory sample for every five screening samples). This is an appropriate level of control for the purposes and goals of the study. Accelerated turnaround from the laboratory will be required for the first set of samples collected in this study, so that the correlation can be evaluated.

Comment: *Based on the number of analytical fractions submitted for chemical analysis, the split-spoon sampler/tube should be at least three inches in diameter to accommodate all of the analytical fractions required for chemical analysis. If limited sample recovery prohibits the collection of all analytical fractions during the sample homogenization process, what action will be taken to ensure that data quality objectives are not affected adversely?*

Response: The Navy concurs with the suggestion for use of a 3" ID split barrel sampling tubes. However, recovery of sample volume is an inherent concern in the performance of this type of study. This is resolved by working with contract laboratories to determine volumes required for each analysis, assuring one laboratory for all analytes, and predetermining a hierarchy of analytical parameters so that the most important analytes are accommodated. The hierarchy of analytes will be clarified in Section 3.3.2.3 and 3.3.3.2 of the Draft Final SASE Work Plan.

SPECIFIC COMMENTS:

Page	Comments
p. 1-4, ¶2 last sentence	*It is EPA's understanding that the offshore activities are being addressed in Addendum B of the Work/Quality Assurance Project Plan - Narragansett Bay Ecorisk and Monitoring for Navy Sites. This offshore effort should be referenced.*
Response:	The Navy concurs with this point. The appropriate reference and a brief project description will be presented in Section 1 of the Draft Final SASE Work Plan.
p. 1-5, § 1.2	*Should Figure 1-3 be updated to include the health and safety manager and the quality assurance/quality control coordinator identified on page 1-6?*
Response:	The text of page 1-6 identifies Halliburton NUS' program Quality Assurance Manager and Health and Safety Manager for the entire CLEAN "Program". Figure 1-3 is specific to the project staff. The Site QA/QC officer and Site Safety Officer are field team members selected for each project based on the needs of that project. This will be clarified in Section 1.2 of the Draft Final SASE Work Plan.

p. 2-3, § 2.3, ¶4 — *Change "grawacke" to "graywacke" and "stacrolite" to "staurolite."*

Response: These typographical errors will be corrected.

p. 2-7, § 2.6, 3rd Bullet — *Please explain further why the subsurface soil sampling (recommended in the PA to determine if contamination was released) is no longer required.*

Response: The Navy has performed the appropriate investigations associated with UST closure and removal actions. All UST closures have been performed in accordance with RIDEM UST regulations and additional investigations in the areas described are no longer warranted.

p. 2-9 — *Samples in the South Waterfront area (discussed on page 1-3) should be added. Otherwise, it will be difficult to determine whether this area should be retained as an area of concern.*

Response: The Navy concurs, as evidenced by the test pits planned for the South Waterfront area (described in Section 3.3.1.1 and Figure 3-1).

p. 3-6, § 3.3.1.1, ¶2 — *The soil piles referenced in this paragraph should be depicted in Figure 3-1.*

Response: The Navy concurs with this point, and the general locations of these piles will be added to the figure.

p. 3.6, § 3.3.1.1, ¶4 — *The text indicates that three test pits will be excavated along the east side of Building 42, and one on the south side of Building 42, However, Figure 3-1 shows a test pit in Room B of Building 42.*

Response: The dark block shown in Room B of Building 42 is intended to show the location of a large concrete sump in that room. This Figure will be corrected to differentiate these two symbols.

p. 3-6, § 3.3.1.2 — *Clarify whether the samples obtained from the specified depths will be obtained by compositing an aliquot of soil from each of the four sides of the test pit. Will the sample from the base of the pit also be a composite sample? The text should indicate that the test pit samples will be analyzed for metals using an X-ray fluorescence ("XRF") detector. As indicated in Section 2.4, solvents and fuels were used during operations at Derecktor. Therefore, chlorinated solvents and BTEX should be analyzed as part of Task 3 activities. (This change would require the addition of benzene and toluene to the list of screening parameters outlined in Section 4.5.2.) If elevated levels of fuel constituents are detected, how will the samples be transmitted to the fixed-base laboratory for TPH analyses?*

Response: Soil samples from test pit operations will be collected such that each sample will be a composite from each wall of the pit. The samples from the bottom of the pit will similarly be a composite from each wall and the bottom of the pit. The text of the paragraph does state that all samples from each test pit will be evaluated with an XRF detector for target metals.

Collection of samples for target VOC screening was not selected for the test pits because the expectation is that these piles where these test pits are to be performed are made up largely of sandblast material.

p. 3-6, § 3.3.1.2 *At least one sample from each test pit should be analyzed by the fixed-base laboratory.*

Response: A frequency of 20 percent of the samples screened was selected for confirmation with laboratory analysis. This is an appropriate level of control for the purposes and goals of the study.

p. 3-7, § 3.3.1.2, ¶2 *Relying on the olfactory sense is not safe and does not guarantee that odors will be identified. Either a photoionization detector or a flame ionization detector should be used to qualitatively test for the presence of organic compounds.*

Response: The Navy concurs with the use of a portable PID/FID as described in the Health and Safety Plan (Appendix A). Unfortunately, the olfactory sense is usually the first sign of encountering some types of volatile contaminants. Regardless, this issue will be clarified in the text of page 3-7.

p. 3-11, §3.3.2.1, ¶1 *Clarify whether the PA identified **six** areas or seven areas.*

Response: Six areas of concern were noted by the PA report. The typographical error on page 3-11 will be corrected.

p. 3-11, §3.3.2.1, ¶3 *Clarify that the well screen will be installed in the saturated zone, in the interval that shows the highest level of contamination.*

Response: The Navy concurs with this point, and this will be stated more clearly in Section 3.3.2.4.

p. 3-12, § 3.3.2.1 *A well should be installed along the South Waterfront in the area with the highest level of contamination based on test-pit screening data.*

Response: No wells were scoped for the south waterfront as a part of the SASE because the material in this area is piled fill, placed on beach. Therefore, the fill is not expected to be continued into the saturated zone, and the thus the test pits are not expected to be continued into groundwater. Groundwater in this area is expected to be so heavily influenced by the tidewaters of Coddington Cove, very little information can be gathered from such a well point unless extensive contamination (i.e., leaking drums) is encountered.

p. 3-12, § 3.3.2.1 *Outside this section of the report, the text does not describe a boring/well west of the steam plant. Please clarify whether existing wells MW-101 through -103 are expected to fulfill this requirement or whether an additional well will be installed as part of this program.*

Response: Existing wells No. MW 101-103 were installed by the NETC to assess conditions downgradient of a group of USTs at this location. A sample from one of these wells will be taken to provide data for groundwater conditions upgradient of the study area, and downgradient of these USTs currently in use at the Steam Plant. The text will be corrected to clarify this point.

p. 3-13, §3.3.2.2, ¶3 *If, MW-9 is cored at a minimum of five feet, the screen used should not exceed the length of the cored hole. The well screen should not straddle the overburden and bedrock aquifer.*

Response: The Navy concurs with this point. The five foot core will be performed only to identify competent bedrock. Coring will be done only after securely seating drilling casing into the top of the rock to isolate the bedrock aquifer from contaminants in the overburden. Upon completion of the core, the core barrel will be extracted, and the cored rock will be backfilled with a bentonite slurry to further prevent the entrainment of contaminants into the bedrock. The text of this paragraph will be rectified to clarify these points.

p. 3-13, §3.3.2.2, ¶4 *Please include rock quality designations for the cored sections for wells MW-5 and MW-9 in the boring logs.*

Response: The Navy concurs with this point. Descriptions of the competence and content will be made, and described in the boring logs. The text of this paragraph will be rectified to clarify this point.

p. 3-13, §3.3.2.3, ¶6 *The work plan should specify the analyte list for VOCs and SVOCS. These samples should be analyzed for Target Compound List ("TCL") VOCs and SVOCs.*

Response: The Navy concurs with this point. The suggested references will be added as appropriate.

p. 3-14, § 3.3.2.3, top of page *The text states that selection of samples for laboratory analysis will be based on the highest concentrations of organics and/or metals detected by the field GC and XRF. A 20 percent sample frequency will allow approximately two samples per borehole shipped for laboratory analysis, based on an expected 20-30 feet of overburden. This selection process may not provide representative data that are adequate for the risk assessment. Typically for risk assessments, samples collected from depths of 0 to 1 foot are used to represent chemical distribution for exposure to surface soils; and samples collected from depths from 1 to 10 feet are used to represent chemical distribution for exposure for subsurface soils. A 20 percent sample frequency of the highest concentrations could theoretically result in the selection of only subsurface soil samples from only the most contaminated boreholes. Therefore, analysis of all boreholes should include a surface soil sample (0 to 1 foot), and a subsurface soil sample (1 to 10 feet) selected according to the highest contaminant concentrations.*

Response: The Navy did not scope surface soil samples for this task because all the boring locations of interest (with the exception of MW-6, MW-7 and MW-9) are located on paved areas. In fact, with the exception of the south waterfront area and a small area to the south of Building 42, the entire site is covered with concrete and/or asphalt. This cover indicates the unlikelihood of the surface soils to form a completed exposure pathway to human receptors from these locations.

However, if the land use changes in the future, this cover may be removed, thud exposing these surface soils. Therefore, the sampling program will be altered to accommodate the concerns stated above.

- Laboratory samples are targeted for intervals showing high concentrations of contaminants by screening analysis by field GC and XRF. If no significant concentrations of contaminants are detected by this screening, secondary targets have been identified (top of the water table and top of bedrock). The soils immediately under the asphalt will be considered one of the secondary target areas.

- Surface soil samples from MW-6, MW-7, and MW-9 will be collected as a part of the boring program.

- Surface soil samples will be performed at all test pits locations on the Study Area, providing the requested data for the exposed soils in the south waterfront and the embankments on the eastern edges of the study area. Laboratory samples from test pits will be collected as described in Section 3.3.1.2 of the Work Plan.

p. 3-14, §3.3.2.4, ¶4 *The Navy should review the grain-size data collected in the vicinity of Building 42 and obtained by TRC as part of the Environmental Assessment of the Derecktor Shipyard, December 1994. Based on these data, a sand pack should be chosen that is appropriate for the formation. Driscoll, Groundwater and Wells, 1987, pp. 438-443, outlines the methodology for determining the proper filter pack and screen size to use, based on formation grain-size. Based on this information, the appropriateness of a 10-slot screen can be determined.*

Response: The Navy concurs with this point. Grain size data from TRC (1994) will provide an indication of the nature of the fill in the area of Building 42. Regardless, an appropriate screen slot size and filter pack makeup will be chosen for all wells. The materials stated in this section are standard construction materials. If site conditions indicate that these are not appropriate for wells at the site, alternative materials will be chosen.

p. 3-15, §3.3.2.4, ¶1 *The text does not describe a sand drain layer above the bentonite grout as depicted in Figures 3-2 and 3-3.*

Response: This oversight will be corrected in the text of the Draft Final SASE Work Plan.

p. 3-15, §3.3.2.4, ¶2 *Native soil should not be used as backfill around the annulus.*

Response: The conditions of the soils usually dictate the possibility for use as backfill around the well riser above the upper seal. However, the Navy will concur with the request, and not use native soils as backfill.

p. 3-15, §3.3.2.4, ¶4 *Field parameters such as pH, temperature, conductivity, turbidity, and salinity should be monitored during development activities. Limits should be set to determine when development criteria are met. Typically, development can cease when pH, temperature, conductivity, and salinity differ within 10% from reading to reading and turbidity is below 10 NTUs. Often when wells are constructed improperly turbidity readings may not go below 10 NTUs (see also comment to Section 3.3.2.4, page 3-14, T4).*

Response: The details of the well development procedures will be described in the Draft Final SASE Work Plan, Section 3.3.2.5. HNUS will monitor pH, conductivity, salinity, turbidity, and temperature along with the standing water level of the

well in an attempt to prevent the well from being purged dry. The suggested parameters for successfully developed well described in the Agencies comment (above) will be used to the extent possible.

p. 3-18, § 3.3.2.6 — *If the well screens are partially saturated, then a falling head test cannot be used to determine in situ hydraulic conductivity. In these instances, only rising head tests are applicable. Please explain whether the water levels measured during the slug test will be obtained manually or using a pressure transducer and datalogger.*

Response: The Navy concurs with this point. In general, only wells screened in the fully saturated materials will be used to perform falling head tests. Water levels will be obtained using pressure transducers set for continuous readings and recording. These points will be fully described in Section 3.3.2.7 of the Draft Final SASE Work Plan.

p. 3-18, §3.3.2.7, ¶1 — *The text describes twelve monitoring wells, but Table 3-1 indicates that thirteen wells will be sampled.*

Response: The text describes installation of 12 monitoring wells, but Table 3-1 indicates that 13 wells will be sampled. One existing well selected from the three wells (MW-101-103), located to the west of the Steam Plant will be sampled as an upgradient well for this portion of the site. This point will be clarified in Section 3.3.2.8 of the work plan.

p. 3-18, §3.3.2.7, ¶3 — *The work plan should specify the analyte list for VOCs and SVOCS. These samples should be analyzed for TCL VOCs and SVOCS.*

Response: The Navy concurs with this point. The text will be modified to clarify the analyte list.

p. 3-19, §3.3.2.7, ¶3 — *EPA Region I prefers that the regional SOP for Groundwater Purge and Sampling be used as part of this investigation.*

Response: In light of the conditions encountered by TRC during the building assessment at Building 42, HNUS concurs with this point. The USEPA Region I low-flow SOP (GW-0001, 10 Aug, 1994) will be used for groundwater sample collection. The text of section 3.3.2.8 will be modified to describe this procedure.

p. 3-25, § 3.6 — *Please explain further how this equipment will be decontaminated.*

Response: The text states the decontamination sequence for each type of equipment to be used at the site. The nature of the comment indicates that this text should be elaborated upon to be more descriptive of the sequence, not that the agency disagrees with any part of the sequence. Therefore, this text will be expanded to clarify the materials used for decontamination and the methods of application.

p. 4-2, § 4.1.1 — *The statement that indicates that the Navy has adopted three analytical quality levels (C, D, and E) does not sufficiently describe the desired data quality level for each analytical parameter. For each analytical parameter, briefly describe the following:*

- *the analytical method and Method Detection Limits;*
- *the desired data quality level and requirements;*
- *the intended use of the analytical data; and*
- *the QA/QC requirements to establish the quality of the data collected or produced. Also, limits should be set to determine when data quality criteria are met.*

Response: Two types of data will be generated as a part of this study. Field screening data will be generated which will be consistent with EPA DQO Level II. Laboratory analytical data will be prepared which will be consistent with EPA DQO Level IV. The intended use of the analytical data is two fold: The screening data shall be used to target samples for laboratory analysis, and identify "hot spots" in the soils. Laboratory data will be used for preliminary indications of the nature and extent of contamination at the site. The other information requested in the comment is presented in various portions of Section 4 of the Draft Work Plan.

p. 4-2, § 4.1.1 *The analytical quality levels (C, D, and E corresponding to EPA levels III, IV, and V) listed in this section do not define the quality level of field screening analytical support, which is EPA quality level II. Please specify the data quality level and requirements of the field-screening data.*

Response: Field screening data, collected as described in Section 4.5.2 of the work plan is equivalent to EPA DQO Level II. This will be clarified in the Draft Final Work Plan, Section 4.4.1.

p. 4-2, § 4.1.2.1 *The second paragraph states that analytical precision will be measured as the relative standard deviation of the data from the laboratory duplicates. Please correct the statement to note that the measure of analytical precision is evaluated using the following calculations:*

- *Relative Percent Difference from duplicate measurements, and*
- *Relative Standard Deviation from three or more replicates.*

Response: The Navy concurs with this point. The reference to these calculations will be made as suggested.

p. 4-2, § 4.1.2.1 *The data quality indicators, precision and accuracy, were not specified for field-screening generated data. Please clarify how these quality indicators will be evaluated for the field-screening data.*

Response: The omission of evaluation of field screening data for precision and accuracy was unintentional. Analytical precision and accuracy will be evaluated upon receipt of all analytical data as stated in the text of this section, regardless of whether the lab is fixed base or mobile.

p. 4-2, § 4.1.2.1 *The text discusses the measure of accuracy using matrix spike and matrix spike duplicate analyses, but the frequency of MS/MSD analyses were not specified in Section 4.1.3.1 nor listed in Table 4-2. Please specify the frequency of the MS/MSD analyses and the required quality criteria.*

Response: In general, the frequency of MS/MSD analysis is one sample in 20 or 5%, as is the case for CLP Level IV. In addition, the level of quality is similar to CLP Level IV. As this information is specific to lab QC, it will be presented in a new subsection: 4.1.3.5. of the Draft Final Work Plan.

p. 4-3, § 4.1.2.2

Representativeness refers to the extent that data used to estimate exposure point concentrations define the true nature, extent, and concentrations of the contaminants of concern. Please specify the representativeness of the data generated using the measurements of concentration in one medium to estimate the concentrations in a different medium, as done in headspace screening of contaminated groundwater and soil.

Response:

Headspace screening is a tool to locate presence of VOCs in soil, and relative amounts between one location and another. Headspace screening will be used to evaluate the presence of VOCs in soils during soil sample collection.

The sample collection for field screening and laboratory analysis will be the same. Every effort will be made to collect the soil samples that represent the soil under investigation. The samples will be collected in VOC vials, maintained at 4°f, and analyzed within the allowed holding time to insure representativeness.

The type and concentration of the volatile compounds in the headspace of samples screened on site depends on the type of contaminants present in the soil sample and their concentration. The volatile contaminants in the headspace represent the volatile contaminants of the soil in the container. The sample with the highest concentration of volatile contaminants of the soil will deliver the highest concentration of volatile contaminants to the headspace of the container.

The Navy does not intend to use headspace analysis or field screening data to make determinations of true nature, extent and concentrations of contamination. The screening data will be used to determine hot spots of contamination to target laboratory split samples. The laboratory split samples alone will support future laboratory analysis to determine nature and extent of contamination as a part of a remedial investigation if one is warranted.

These clarifications will be presented in Section 4.1.2.2 of the Draft Final Work Plan.

p. 4-4, §§ 4.1.2.3 & 4.1.2.4

Completeness indicates whether the range of contaminant concentrations, the suite of contaminants detected, and the extent of contamination in environmental media at the site are fully represented in the data set. The analytical approach cited in this work plan does not fully characterize the suite of contaminants on site. The headspace screening of contaminated groundwater and soil for VOCs using a Photovac gas chromatograph as stated in Appendix C has the following limitations:

- *May generate potentially biased low data. (See comments on the Analytical Methodology.)*
- *Limited TCL of only ten target compounds may not be fully representative of contamination at this site. A limited TCL is acceptable for a site that has been characterized. The preliminary assessment of this site using site inspection and observations and historical activities does not provide sufficient information for characterization of contamination on site. A more comprehensive TCL should be investigated.*

- *Lack of comparability between laboratory generated data, which include VOA, BNA, and pesticide/PCBs using CLP SOW OLMO1.8, and those generated in field-screening, which include 10 VOCs and a few metals.*

Response: The purpose of this investigation is to determine presence of contaminants in various environmental media at the site. The purpose of the screening samples is to target samples for laboratory analysis. The approach of using a combination of screening techniques for the most expected contaminants and a 20% frequency of samples split for full TCL/TAL laboratory analysis to determine the full suite of contaminants present in the media is a good approach for a first tier investigation.

The target screening contaminants have been selected based on historical use of chlorinated compounds and fuel oils at the site. The target metals have been selected based on their occurrence above baseline levels in Coddington Cove sediments proximate to Derecktor Shipyard. This selection is stated in Section 4.5.2 of the Draft Work Plan.

p. 4-9, § 4.1.3.4 *Trip blanks are used to assess contamination by VOCs during shipping and handling. For this reason, trip blanks must accompany the field samples. If, for example, there are multiple sampling crews out at one time, then trip blanks should accompany each group. If, during shipment, the samples are "pooled" in a single cooler, then the trip blanks accompanying each respective sampling group should be submitted for VOC analysis.*

Response: The Navy concurs with this point. The text and Table 4-2 will be modified to reflect this clarification.

p. 4-12, § 4.5.1 *The quality of the analytical data generated using non-standard methodology is dependent on the QA/QC steps employed in the process. Please provide the SOPs with descriptions of analytical procedures and the QA/QC steps employed for the analysis of butyltin compounds using methods specified by Wade et al (1990).*

Response: The requested SOPs were originally published in the Draft Final Work/Quality Assurance Project Plan, Narragansett Bay Ecorisk and Monitoring for Navy Sites (URIGSO, 3/24/95) Appendix A. However, these SOPs will be appended to the Draft Final On Shore SASE Work Plan as requested.

p. 4-12, § 4.5.2 *The quality of the analytical data generated using field-screening analytical techniques is dependent on the QA/QC steps employed in the process. Please provide the SOPs with descriptions of analytical procedures and the QA/QC steps employed for the analysis of target metals using XRF.*

Response: The requested SOPs will be appended to the Draft Final On Shore SASE Work Plan as Appendix D. Field Investigation Forms will be moved to a new appendix (E).

p. 4-12, § 4.5.2 *The target VOC 1,4-dichloroethene listed in ¶3 is not a legitimate compound.*

Response: The error will be corrected. The proper compound is 1,1,1-trichloroethane, as stated in Appendix C.

p. 4-13, § 4.6 — *Please state the validation process for the field-screening data.*

Response: 100% of the field screening data will be reviewed by the project chemist. This review will be performed to determine instrument calibration, blank contamination, and field and laboratory precision. The chemist will report to the project manager the findings of the review, which will be reflected in the SASE report.

This clarification will be presented in Section 4.6 of the Draft Final SASE Work Plan.

p. 4-13, § 4.7 — *Please identify the quality control criteria, acceptance windows, for evaluation of data quality. The method cited in Appendix C only lists the quality control analyses.*

Response: Presented below are the requested criteria:

Initial Calibration: Three level concentration standards and an air blank. The relative standard deviation of the calibration factor for all compounds should be equal to or less than 35%. If criteria is not met, check instrument, prepare and reanalyze fresh standards.

Continuing Calibration: The relative percent difference between the average initial and continuing calibration factor should be equal to or less than 30%. If criteria fails, prepare a fresh standard must be prepared and a new initial calibration must be performed.

Screening Duplicates: The relative percent difference for soil samples screened in duplicate should be equal to or less than 40%. If this criteria is not met, both samples should be reanalyzed.

This material will be presented in Section 4.7 of the Draft Final Work Plan.

p. 4-13, § 4.8 — *Please specify or reference correction action procedures.*

Response: Refer to the response to the previous comment (above).

p. 4-15, § 4.10 — *Please specify the validation process for field-screening data.*

Response: Field screening data will undergo a data review, which includes the tasks consistent with a EPA "Tier II" data validation.

p. 4-15, § 4.10.2 — *The most recent version of the National Functional Guidelines for Organic and Inorganic Data Review must be used. (The guidelines for organic data are dated February 1994 and for inorganic data are dated February 1993.)*

Response: The most recent versions of guidance documents available shall be used. Organics will be analyzed per OLMO3.0 (with revisions) and Inorganics will be analyzed per ILMO3.0 (with revisions)

p. 5-1, § 5.0 — *The report must include a section on geology/hydrogeology.*

Response: Geologic and hydrogeologic conditions evaluated at the site will be included as a subsection of Section 3 of the SASE report. This clarification will be included in the Draft Final Work Plan.

p. 5-1, § 5.0, ¶5

Regulatory agencies should be advised prior to implementing any significant changes. At minimum, any changes in the field program as denoted by a task modification request should include a distribution to the regulatory agencies.

Response:

The Navy will make the regulatory agencies aware of the changes to the field activities as they are required. In addition, these changes will be fully described to the agency in the report, specifically in Section 2 of the SASE Report.

p. 5-1, § 5.0, ¶6

The text should specify the criteria that will be used for the preliminary identification of primary site contaminants. The following page indicates only that persistence will be used to add or delete contaminants from the list of primary site contaminants.

Response:

The primary site contaminants will be selected based on frequency of detection, concentration, mobility and persistence in the environment. These criteria will be fully described in Section 5 of the Draft Final Work Plan.

p. 5-2, § 5.0, ¶3

The text states that the assessment will provide risk-based selection of contaminants of concern that will be compared with the primary site contaminants. The text should clarify what is meant by "risk-based" and explain the objective of such a comparison. It is unclear whether the risk--based contaminants of concern are a subset of the primary site contaminants.

Response:

A risk based selection of contaminants will be made by use of a concentration-toxicity screening procedure. In this procedure, each contaminant detected is scored for each medium in which it was detected based on it's toxicity and concentration. The score for each contaminant is evaluated by its ratio to the sum of all the total of all the scores for that medium. The concentration-toxicity screening evaluation is described in the Risk Assessment Guide for Superfund Volume I, December 1989.

The contaminants selected in this manner will be compared with those selected as primary site contaminants based on concentration, frequency of detection, persistence and mobility. The contaminants which appear on both lists will be selected as preliminary contaminants of concern for the site.

The text of Section 5 in the Draft Final SASE Work Plan will be expanded to describe this approach.

p. 5-3, § 5.0, 7th Bullet

The most recent version of HEAST FY-1994 Annual should be used.

Response:

The Navy concurs with this point. The most recent version of all documents available will be used as appropriate.

Appendix A

The text refers to the investigation as a remedial investigation. However, the study is actually a site assessment.

Response:

The Navy concurs with this point. The incorrect reference will be rectified.

Appendix A, p. A-5-1, § 5.0

Since benzene may be present, Draeger tubes designed to detect benzene should be used as part of intrusive activities. According to the NIOSH Pocket Guide to Chemical Hazards (June 1994) a SCBA should be used if benzene is detected above 1 ppm.

Response:

These devices are not useful as quantitative instruments to evaluate low concentrations. The accuracy of these devices is questionable, particularly in an outdoor environment. The other monitoring instruments described, PPE upgrade levels and other requirements stated in the HASP are appropriate for the protection of the site workers on this project.

Appendix A, p. A-7-1, § 7.1, ¶1

Identify the contamination reduction zone.

Response:

The contamination reduction zone is synonymous with the "contamination reduction corridor" as stated. This clarification will be made in the Draft Final Work Plan.

Appendix A, p. A-8-1, § 8.2, ¶3

It is unclear whether a hexane rinse (as part of the sampling equipment decontamination procedure as described in Section 3.6) will be implemented.

Response:

The hexane rinse is not intended to be used for general sample collection decontamination. The incorrect reference will be deleted from Section 3.

Appendix C

Please elaborate on the following analytical considerations that affect data quality:

Instrument Calibration: The headspace analysis SOP indicates that the GC be calibrated using only one standard rather than by instrument performing a multi-point calibration curve. The use of only one calibration standard assumes linearity. Without proof of linearity all quantitated results are biased. The bias is difficult to assess without further information.

Sample/Standard Equilibration: The SOP states that samples and standards will be shaken and then allowed to sit at room temperature for at least 30 minutes before analysis. "Room temperature" is very non-specific, especially when referring to a field procedure, and could compromise consistency of sample volatilization. Unless the field laboratory has very good climate control, equilibration temperatures for individual samples and standards could vary dramatically. Cooler temperatures in the early part of the day could yield results that are biased low when compared to results of samples analyzed when temperatures are warmer. The use of an air conditioner in a field lab trailer could also affect consistency of volatilization.

"Room temperature" probably is not sufficient to volatilize most VOCS. For this reason, headspace analyzers typically have a heated zone (60@ 800 C) for sample and standard equilibration. Heating of this nature will help assure adequate and consistent volatilization.

Check Standard Integrity: The SOP does not indicate what will be done about check standard storage throughout the day. If the check standard is allowed to sit at room temperature throughout the day, there may not be consistent headspace concentrations as a result of temperature fluctuations from extended equilibration time.

Response:

Instrument Calibration: Calibration of the GC at the beginning of the project is described in Section 6.1 of Appendix C. This calibration is a 3 level calibration designed to remove the bias of concern.

Sample Standard Equilibration: The field office where screening will be performed will be regulated between 20-28°C, either via heat or air conditioning.

Room Temperature: The Navy concurs with the concern stated. However, since check and calibration standards and samples are equilibrated at the same temperature, the variation is accounted for.

Check Standard Integrity: The check standard is stored in a refrigerator throughout the day, however, it is allowed to sit at room temperature for 30 minutes prior to analysis.