

01.01-4/7/2000-02026

April 7, 2000

Helen Shannon
USEPA Region II
Federal Facilities Section
290 Broadway
New York, NY 10007-1866

Subject: Response to Comments on Work Plan for Expanded PA/SI at NASD Vieques

Dear Helen:

Presented below are the response to USEPA comments on the draft work plan for the expanded PA/SI at NASD Vieques, Puerto Rico. The first group of comments was received from you via e-mail on March 16, 2000. A second group of comments from Nicoletta Diforte was received via e-mail on March 20, 2000. A final general comment was received from you via e-mail on March 21, 2000. Responses to each comment are listed in italics.

Comments from Helen Shannon on March 16, 2000

I. General

1. Inconsistencies were found between the draft work plan and the March 2nd presentation. CERCLA Process Naval Ammunition Support Department document (e.g., eco/human risk assessment is not mentioned in the workplan, explosives sampling). Specifics are discussed below.

Response: Sections on ecological surveys and risk assessment have been added to the Final Work Plan. Explosives were added to the analyte list for SWMU-04 Inactive Waste Explosive Open Burn Area and SWMU-06.

2. The work plan should discuss the ecological survey and the Qualitative Ecological and Human Health Risk Assessment which the Navy has stated will be done in the March 2 aforementioned document. This should be discussed at the beginning of the workplan (e.g., Introduction section). A schedule discussing when these assessments will be conducted as well as when documents will be prepared should be given.

Response: See response to comment no. 1 above. Qualitative Ecological and Human Health Risk Assessments have been included in the Final Work Plan. The schedule for field activities and reporting is included in Section 6 of the Work Plan.

II. Specific Comments

A. SWMU-04 - Inactive Waste Explosive Open Burn Area

1. Explosives should be included in the sampling. Please add this in the work plan.

Response: Explosives have been added to the analyte list for SWMU-04.

B. SWMU 5- IRFNA/MAF 4 Disposal Site

1. Under Sampling Rationale: As per March 2 document, the work plan should specify the # of surface and subsurface soil samples for the ditch that will be taken.

Response: The Final Work Plan specifies that four soil borings will be completed at SWMU- 05. At each soil boring one surface soil and four subsurface soil samples will be collected from the ditch.

C. SWMU 14 - Wash Rack Area

1. The 1988 RFA (RCRA Facility Assessment) recommends sampling of the "unlined ditch" which discharges water from the unit. As per our phone conference, please briefly discuss the strategy on sampling of ditches based on proximity of other waste units.

Response: Fifteen surface soil samples will be collected from the unlined ditches which drain the area from SWMU-14, SWMU-15, AOC-E, AOC-F, and AOC-C. Surface soil and subsurface soil samples will be collected in the immediate vicinity of the Wash Rack (SWMU 14) to differentiate contamination by SWMU-14 from other sources of contamination. The utilities, including storm drains will be mapped using surface geophysics.

D. SWMU 15 - Waste Transportation Vehicle Area

1. Per our phone conference, please indicate that the drums are no longer on site and have been properly disposed.

Response: Text has been added to the Work Plan which indicates that the drums are no longer on site and were shipped to Naval Station Roosevelt Roads (NSRR) for proper disposal.

E. UIC - Septic System Site

1. Please indicate the depth of the tank and the rationale for selecting sampling depths of the subsurface soil samples.

Response: The sampling plan for the septic tank investigation was initially developed by the PREQB. The depth of the tank is approximately 4 feet. Subsurface soil samples will be collected at 5, 10, 15, 20, and 25 feet to delineate the vertical extent of contamination, if any, within the soils. In addition, groundwater monitoring wells will be installed to assess groundwater quality impacts..

F. Site 2016 UST AOCE

1. The 3 proposed new well locations do not appear to all be downgradient of the UST as indicated in the text. Please correct this accordingly in the text.

Response: Figure 2-12 in the Work Plan has been revised to show two proposed wells downgradient and one proposed well cross-gradient. The text has also been revised appropriately.

2. Sampling parameters are not indicated in the work plan (e.g., TAL, TCL). (The March 2 document did indicate this.) Please correct this in the work plan.

Response: The Work Plan has been revised to show the sampling parameters for AOC-E, which include the TAL, TCL lists.

Comments from Nicoletta Diforte on March 21, 2000

General -

- the depth for collecting surface soils should be stated.
Response: Surface soil samples will be collected from zero to six inches.
- A rationale should be provided for terminating sampling at 5 feet. A justification should be provided for not analyzing samples through the entire depth.
Response: This is a preliminary assessment. If contamination is found at a depth of five feet, additional sampling will be conducted. Additional sampling will be conducted as part of a second phase of investigation for the preliminary assessment. The results of this investigation will determine which sites can be recommended for no further action and which sites will require additional investigations through the CERCLA process.
- Consideration should be given to analyzing some percentage of samples with depth. Field screening techniques should also be considered to determine what sample depths will be analyzed (e.g., visual contamination, OVA readings, etc.)
Response: The soil samples will be field screened with an organic vapor meter (OVM). Samples with the highest OVM reading or the most visual contamination will

be analyzed.

Low flow groundwater sample collection methods should be considered, if background metals are an issue.

Response: Low-flow groundwater sampling methods will be used where applicable. The depth to water in most areas of the NASD is greater than 25 feet. At these depths to water, a peristaltic pump cannot be used. Low-flow submersible pumps with the lowest flow setting will be used for groundwater sampling where the depth to groundwater is greater than 25 feet.

Where wells are already installed, groundwater flow diagrams should be provided to verify that the wells are truly downgradient.

Response: Groundwater flow maps will be developed at the sites where groundwater monitoring wells are installed..

Section 1 - Include a brief discussion of all the SWMUs & AOC identified in the RFA and why some are not being addressed in this work plan (e.g., the RFA said sampling was not needed).

Response: A brief discussion about why some SWMUs are not addressed in this work plan was added to Section 2.

Section 2.1.3 - Include explosives in the list of parameters to be analyzed.

Response: Explosives has been added to the parameter list for SWMU-04 and SWMU-06.

Section 2.2.3 - Use of vapor sampling field techniques to determine if there is volatile contamination in the vadose zone, or if LNAPL may be present should be considered. Based on the photograph, it seems that the entire area where the release occurred is not being sampled. The areal extent should be expanded. Do the analyses include chemicals that are specific to the fuels released (e.g., amine fuels, nitric acid, nitrogen-containing compounds)? If not, expand the list of parameters. The spring should be resampled to ensure a concurrent, complete data set.

Response: The most likely area affected by the release is being sampled. The release occurred in 1975 (25 years ago). The fuel was reportedly discharged to the adjacent quebrada. The most likely release area is the ditch (shown in the photograph) which drains the area from Bldg. 422 towards the quebrada. The spring is not in the same drainage basin as the quebrada and therefore was not proposed to be sampled. According to the Final Preliminary Assessment Report for Sites 1,2,3(October, 1992), the spring used by the Cooperative de Cos Ganaderos is located 2,000 feet downgradient of the drainage divide separating the spring's groundwater system from the groundwater system where fuel materials were disposed.

Section 2.5.1 - The narrative gives the impression that waste paints and solvents are still being disposed of on a monthly basis in this area.

Helen Shannon
Page 5
August 16, 2000

Response: The text of the work plan has been modified. Waste paints and solvents are no longer disposed of in this area. Furthermore, the site inspection did not identify areas where paints or solvents were disposed of. Waste paints and solvents are transported to NSRR for proper disposal.

Section 2.7.3 - Provide an explanation of why no subsurface soil samples are being collected. Verify that Napalm constituents are included in the analyses. The discussion mentions groundwater samples, but there is no discussion of well placement. Please revise.

Response: The text of the work plan has been modified. The constituents of napalm include fuel and gel and are included in the current parameter list. The fuel is highly volatile and most likely evaporated and/or biodegraded before migrating through the clayey surface soils. However, a downgradient monitoring well will be installed to assess if any fuel has impacted the groundwater..

Section 2.10 - Was the UST work done under EQB oversight? If so, provide a discussion.

Response: The text of the work plan has been modified. The UST work was completed under EQB oversight. A report titled "Site Characterization Report for Site 2016" was submitted to EQB in August 1998.

Comments received from Helen Shannon on March 21, 2000

In the Introduction section of the WP, it would be helpful to have a little more background with regard to Western Vieques. Specifically, something should be mentioned that the Navy did a Preliminary Assessment and Site Investigation which EPA evaluated for HRS purposes and that the site did not score for the National Priorities List (NPL). Also, state that the Work Plan includes areas that need further investigation before the property can be transferred to the PR government as mandated by the President.

Response: The Introduction section of the work plan has been modified to address the above comments.

Sincerely,

LANTDIV

Chris Penny
Navy Technical Representative

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Response to EPA Review Comments on the Draft Master Quality Assurance Plan and Work Plan, May 2000

For
Naval Ammunition Support Detachment
Vieques Island, Puerto Rico
Master Work Plan, QAPP, FSP, DMP, IDW, and SOPS
May 2000

By
CH2M HILL

General Comments

1. *1. Any and all deviations to the Work Plan/QAPP/FSP should be reported to the appropriate contacts of the Puerto Rico Environmental Quality Board, U.S. EPA, Department of the Navy and CH2M HILL.*

Response:

Any deviation to the Work Plan/QAPP/FSP will be reported to the Puerto Rico Environmental Quality Board (EQB) and U.S. EPA.

2. *2. Verify that the analytical methods proposed will address all of the known contaminants of concern, defined by historic site activity. Perchlorate should be added to the list of analytes for this site since there has been prior use or storage of waste munitions, fuels, propellants, loose powder and primers (e.g., SWMU-04 and SWMU-06).*

Response:

The analytical methods covers all known contaminants of concern based on the most current knowledge of historical site activities. Perchlorate has been added to the analytical list for SMWU-4, SWMU-6, and SWMU-7 to investigate the potential presence of UXOs based on each site's historic activities.

Master Work Plan - Project Management Plan

3. *1. Subsection 2.1.1 SWMU 04 - Inactive Waste Explosive Open Burn/Detonation Range, page 2-1: See General Comment #2 above.*

Response:

Comment noted and addressed in response number 2.

4. *2. Subsection 2.1.3 SWMU 06 - Mangrove Disposal Site, page 2-3: See General Comment #2 above.*

Response:

Comment noted and addressed in response number 2.

5. *3. Subsection 2.1.5 SWMU 10 - Waste Paint and Solvents Disposal Site, page 2-3: It should be clarified why groundwater will not be characterized at this location.*

Response:

The groundwater was not investigated at this site because contamination of this media is not suspected. The presence of a confining layer of silt and clay soils at the surface within the investigation area surrounding the paint storage shed has ruled out the potential migration of waste paint and solvents to the underlying groundwater. The approximate depth to groundwater is 36 feet which was obtained from nearby wells in the public works area.

6. *4. Subsection 2.1.9 AOC E - UST Site 2016, page 2-4: It is indicated in this section that this location will be resampled to determine the extent of benzene contamination due to the exceedances of PREQB soil and groundwater target levels. Since this area is a known waste oil tank site, it is recommended that metals, volatile organic compounds (VOCs), and semi-volatile organic compounds (SVOCs) be added to the list of analytes for this AOC.*

Response:

The samples will be analyzed for metals, volatile organic compounds (VOCs), and semi-volatile organic compounds (SVOCs). In addition, pesticides and PCBs will also be analyzed.

7. *5. Section 2.2 Data Management, page 2-5: It is stated in this Section that analytical results will be validated by CH2M HILL subcontractors in accordance EPA Region 3 guidance.*
- 7a. *a. In lieu of using the National Functional Guidelines for Organic and Inorganic Data Review and EPA Region 3 Data Validation (DV) guidance, the data validation protocols preferred are those developed by Region 2. The regional SOPs are more detailed and define specific acceptance/performance criteria as well as subsequent qualifier codes applicable to organic and inorganic data. For those methods that do not have a corresponding DV SOP developed by Region 2, the QA/QC criteria provided in the method should be used. The QAPP should state the criteria and corresponding actions to be employed if acceptance criteria are not met. The Region 2 protocols can be found at: <http://www.epa.gov/region02/smb/sops.htm>*

Response:

The data validation will be conducted in accordance with EPA Region 2 guidance.

- 7b. *b. Use of the regional data validation procedures requires examination of the organic and inorganic sample raw data (e.g., chromatograms, spectra, quant reports, and instrument print-outs).*

Response:

Data validation will be provided of all laboratory data by CH2M HILL's subcontractor, Heartland.

8. *3. Provide information regarding the subcontractor data validation company to be employed. This is to include the company name and qualifications of those personnel involved in this project.*

Response:

Data validation will be provided of all laboratory data by CH2M HILL's subcontractor. The specific qualifications of the data validation subcontractor will be provided.

9. *6. Section 2.3 Assessment of Risks, page 2-6: It is recommended that all aspects of this project and sections of the master project plans pertaining to the human health risk assessment be submitted to an EPA Region 2 Risk Assessor for review and comment. All aspects of this project and sections of the master project plans pertaining to the ecological risk assessment should be submitted to the EPA Region 2 Biological Technical Assistance Group for review and comment.*

It is indicated in Section 2.3 that a qualitative human health and ecological risk assessment will be conducted following the applicable guidance. However, the guidance documents referenced in this section are generally used for quantitative risk assessments. Clarification is needed as to how the qualitative risk assessment will be conducted. In addition a detailed description of the qualitative risk assessment process should be provided in the plan.

Response:

Human health risk assessment aspects of this project will be forwarded to an EPA Region 2 Risk Assessor for review and comment. Ecological risk assessment aspects of this project will be forwarded to the EPA Region 2 Biological Technical Assistance Group for review and comment. The qualitative risk assessment for this project will consist of a screening of laboratory data to EPA Region 3 Risk Based Criteria (RBCs) and to background concentrations. Due to the extremely tight schedule for this project, procedures for the risk based screening will be included in the draft report.

10. *7. The U.S. EPA Exposure Factors Handbook was last updated in 1997. The reference to this document should be revised.*

Response:

The reference will be updated.

11. *8. Prior to conducting the dermal exposure assessment, contact a Region 2 Risk Assessor for the most recent update of the dermal exposure assessment guidance (Risk Assessment Guidance for Superfund (RAGS), Part E, Interim Final.*

Response:

If a dermal exposure assessment is required, a Region 2 Risk Assessor will be contacted.

Master Field Sampling Plan

12. *1. Subsection 2.1.1 Field Measurements, page 2-1: Oxidation reduction potential should be added to the list of field measurement parameters when conducting groundwater sampling.*

Response:

The oxidation reduction potential (ORP) will be added to this section and will be measured in the field during the groundwater sampling activities.

13. *2. Subsection 2.1.5 Surface Water Sampling, page 2-5: It is recommended that surface water samples be preserved after collection of the sample or collected in a separate container and then transferred to the sample container to ensure that the preservative is not rinsed from the sample container during collection. For volatile organic samples, the surface water sample should be collected in a glass container and then transferred to the sample vial containing the preservative.*

The sample pH must be checked immediately after sample collection to ensure that the sample is preserved properly. Samples collected for volatile organic analysis should be checked on a separate aliquot (test vial).

Response:

All surface water samples will be collected in a separate clean glass container provided by the laboratory and transferred to the appropriate sample container. This method will ensure no loss of preservative from the sample container. Sample pH will be checked to ensure proper preservation is attained according to the respective method.

13. *3. Table 2-1, Required Containers, Preservatives and Holding Times for Water Samples: It should be noted that amber glass sample containers are used for the collection of SVOCs and Pesticides/PCBs. This table should be revised to indicate the proper glassware.*

Response:

The table will be revised to state that amber glass containers will be used for the collection of SVOCs, pesticides, and PCBs.

14. *4. Sections 2.6 and 2.8 Surface and Subsurface Soil Sampling, pages 2-8 and 2-9: A detailed description of the procedure to be used for the collection of soil samples for volatile organic analysis should be specified or referenced in these sections. For example, several SOPs were submitted for the collection of soil samples (Soil Sampling, Shallow Soil Sampling and Soil Sampling for VOCs Using the EnCore• Sampler). In addition, it is indicated in Table 3-2 of the Work Plan that soil/sediment samples will be collected using the Encore• sampler. It should be clarified when and where each of the procedures specified in the SOPs will be used. It is recommended that soils samples for volatile organic analysis be collected using the EnCore•/similar type sampler or using field preservation methods as prescribed in SW-846 Method 5035.*

Response:

Specific field procedures will be discussed with the field team members prior to collecting soil samples. The EnCore™ sampler will be used to collect the VOC fraction for all soil samples except in cases where fluid sediments are encountered. Also, the EnCore™ method will be referenced in the text.

16. 5. *Table 2-2, Required Containers, Preservatives and Holding Times for Soil and Sediment: Clarify the appropriate sample container and preservative to be used for soil and sediment samples collected for volatile organic analysis. See comment #4 above.*

Response:

The table will be revised to specify the use of En Core™ sample containers for soil and sediment samples for volatile organic analysis.

6. *Section 2.9 Monitoring Well Installation, page 2-9:*

17. 1. *The record keeping process to document the construction, installation, development, testing and maintenance of the monitoring well network should be incorporated into the plan.*

Response:

All monitoring well installation activities will be recorded in the field notebook. A specific field notebook will be developed with field forms, boring log forms, well development forms, a construction log, and a sampling log for each well.

18. 2. *Figures for each SWMU and AOC with the proposed monitoring well locations should be provided.*

Response:

Figures will be provided for each SWMU and AOC with the proposed monitoring well locations.

19. 7. *Subsection 2.9.1 Monitoring Well Construction, page 2-10: It was recommended in this section that the monitoring wells be constructed of 4-inch diameter Polyvinyl Chloride (PVC) casing and screen. It is stated in the Work Plan that VOCs are a concern at this site, therefore, stainless steel may be indicated as the necessary casing and screen construction material since it is durable and essentially inert if organic contaminant concentrations are detected.*

Stainless steel may react with acidic or saline groundwater, therefore, pH and conductivity data collected during the groundwater screening/sample collection should be thoroughly reviewed. The rationale for using PVC well casing and screen versus stainless steel should be provided.

Response:

Monitoring wells will be constructed of 2-inch diameter PVC casing and screen which should adequately address any site concerns regarding VOCs. The proximity of the SWMU's to the nearby ocean and potential acidity concerns with the presence of mineral soils provide sufficient justification for adhering to PVC well construction material.

19. *8. Subsection 2.9.2 Monitoring Well Development, page 2-11: Specify the measurement criteria (nephelometric turbidity unit (NTU)) to be used during the well development procedure.*

Response:

Temperature, pH, and conductivity will be measured during well development. Turbidity will be measured at the end of well development and will not serve as a criterion for final well development.

20. *9. Section 2.10 Monitoring Well Abandonment, page 2-11: Clarify why the well abandonment procedures will be conducted in accordance with the District of Columbia requirements since the site is located in Puerto Rico.*

Response:

Well abandonment will be conducted in accordance with Puerto Rico Environmental Quality Board and U.S. Navy requirements, whichever is applicable.

22. *10. Section 2.11 Groundwater Sampling from Monitoring Wells, page 2-12: It is recommended that all groundwater monitoring well sample collection procedures including: purging; stabilization of monitoring parameters; sample collection; and decontamination of equipment should be conducted in accordance with EPA Region II Groundwater Sampling Procedure, Low Stress (Low Flow) Purging and Sampling, March 1998. This SOP can be found at the following Website:
<http://www.epa.gov/region2/smb/sops.htm>.*

Using the EPA Region II Ground water Sampling Procedure (Low Flow) SOP, March 1998 should eliminate the need to filter groundwater samples.

Response:

Low flow purging and sampling methods in accordance with EPA groundwater sampling SOP will be used for collection of groundwater from the monitoring wells.

23. *11. Section 2.18 Land Surveying, page 2-15: It should be clarified why surveying activities will be conducted by a qualified surveying subcontractor licensed in the District of Columbia since the site is located in Puerto Rico.*

Response:

All surveying activities will be reviewed by a professional land surveyor licensed in Puerto Rico.

24. 12. Section 3.2 Sample Shipping Procedures, page 3-2: It is recommended that all bottles be prepared in accordance with the OSWER Directive 9240,0-05A "Specifications and Guidance for Contaminant-Free Sample Containers."

It should be clarified whether custody seals will be used on each sample container to prevent tampering.

Response:

All sample containers will be prepared by the laboratory and will be contaminant free. Custody seals will be used on all the sample coolers to prevent tampering during shipment and during storage of samples.

Quality Assurance Project Plan

24. 1. Section 4.1 High Level DQOs, page 4-1: It is indicated in this section that a qualitative human health and ecological risk assessment will be conducted. It is recommended that all aspects of this project and sections of the master project plans pertaining to the human health and ecological risk assessments be submitted to an EPA Region 2 Risk Assessor and the EPA Region 2 Biological Technical Assistance Group for review and comment.

Response:

All aspects pertaining to human health and ecological risk assessments will be submitted to an EPA Region 2 Risk Assessor and the EPA Region 2 Biological Technical Assistance Group for review and comment.

25. 2. Section 4.4 ARARs, page 4-5: Clarify the use of the Region III Risk Based Criteria in Table 4-2 and Region 4 Ecological Risk Assessment Bulletins (supplement to RAGS) in Table 4-3, as these criteria may not be appropriate since the site is located on Vieques Island, Puerto Rico within Region 2.

Response:

Region 3 Risk Based Criteria are appropriate for Vieques Island, Puerto Rico. The Region 3 criteria are currently being used for Roosevelt Roads Naval Station, Puerto Rico and have been accepted by EPA Region 2 for risk assessment work in Puerto Rico.

26. 3. Section 7.1 Field Equipment Calibration, page 7-1: Field Equipment calibration logs should be maintained on site. Reference standards used in the field for instrument calibration should be labeled with an expiration date and recorded in the log. This information would be checked during a field audit.

Response:

A field log book will be kept onsite in which all calibration records will be kept. The calibration reference standard lot numbers and expiration dates will also be recorded during field calibration of the instruments in the log book.

27. 4. Section 8.0 Analytical Procedures, page 8-1: The laboratory's qualifications (i.e. Laboratory Quality Assurance Plan (LQAP), certifications, SOPs for the analytical methods to be performed, performance evaluation (PE) sample results, etc.) should be

provided in the Plan. LQAPs should be provided for those laboratories providing analytical services for this project. Only those LQAPs that pertain to the current analytical services, including the relevant SOPs need be provided. It is recommended that, at a minimum, the selected laboratory be required to demonstrate their capability to perform the required analyses by submitting current State certifications and/or recent documentation of acceptable analysis of Performance Evaluation (PE) samples (within the past 6 months). The certifications and/or PE samples must be specific to the analysis and media required for this project.

Response:

Appropriate laboratory certifications and/or PE samples will be submitted.

29. 5. Table 8-1 of the QAPP should be revised to indicate the most current CLP Statement of Work and/or SW-846 analytical methods as follows:

<i>Analysis</i>	<i>Methodology</i>
<i>Organophosphorus pesticides</i>	<i>SW-846 Method 8141A</i>
<i>Chlorinated Herbicides</i>	<i>SW-846 Method 8151A</i>
<i>Corrosivity</i>	<i>SW-846 Method 9040B</i>
<i>Reactivity</i>	<i>SW-846 Method 9010B (cyanide distillation) and 9030B (acid soluble/insoluble sulfides)</i>
<i>TCL VOCs,SVOCs,Pesticides and PCBs</i>	<i>U.S. EPA CLP SOW OLM04.2</i>
<i>TAL Metals</i>	<i>U.S. EPA CLP SOW ILM04.1</i>

Response:

Table 8-1 will be revised to incorporate the above information.

Master Data Management Plan

30. *In accordance with Region 2 policy, all data (except that used for screening purposes) must be validated. The specific data validation (DV) SOPs which will be used should be provided. It is recommended that the USEPA Region 2, Data Validation SOPs be used to the extent applicable. These can be found at the following Website: <http://www.epa.gov/region2/smb/sops.htm>. For those methods that do not have a corresponding DV SOP developed by Region 2, the QA/QC criteria provided in the method should be used. The QAPP should state the criteria and corresponding actions to be employed if acceptance criteria are not met.*

Response:

The EPA Region 2 data validation SOPs will be used, where appropriate.

Master Investigation-Derived Waste (IDW) Management Plan

31. *1. Section 2.2 Liquid IDW, page 2-3: It is stated in this section that "If groundwater is extracted from a background location where contamination is not expected, or if previous investigations have confirmed that contamination does not exist at the site, the groundwater will not be contained during field activities." It is recommended that all IDW liquids, including those from background locations be contained in the appropriate containers, sealed labeled and properly stored on site until groundwater analytical results are obtained and it is determined that contaminant concentrations were not detected or are below the ARARs. Discharging groundwater to the ground surface may require permission from local authorities.*

Response:

All IDW material (solid or liquid) will be contained and drummed until the results from the laboratory analyses will become available. No discharge to the ground surface will occur without a full analysis of the data and permission from local authorities.

32. *2. Section 3.1 Minimization of IDW Volume, page 3-1: It is stated that IDW soil generated during trenching activities will be used to backfill the excavation. A contingency plan should be provided if contaminated soils are encountered during these activities.*

Response:

All IDW soils generated will be contained until laboratory analyses have been completed. The laboratory data (hazardous or nonhazardous) will determine the fate of the soil generated during trenching activities. Any hazardous soil will be drummed and disposed via a waste management contractor with the proper manifestation logs.

Attachment 2, CH2M HILL Standard Operating Procedures (SOPs)

33. *An SOP for documentation and records (e.g., field notebooks, sample logs, calibration logs) should be provided in this attachment.*

Response:

An SOP for documentation and records will be provided.

34. 1. SOP Field Filtering, page 9.4-1: Using the EPA Region II Groundwater Sampling (Low Flow) SOP, March 1998 should eliminate the need to filter groundwater samples in the field.

Response:

Low flow techniques will be employed for the collection of ground water. The use of filters will be determined in the field depending on the site conditions.

35. 2. SOP Direct-Push Groundwater Sample Collection, page 6.2-1: If the method described in this SOP should fail, additional direct push methods (e.g., Hydropunch® samplers, well points) should be provided as a contingency.

Response:

Other direct push methods will be described as a contingency should the provided method fail.

36. 3. SOP Low-Flow Groundwater Sampling from Monitoring Wells, page 6.3-1: It is recommended that all groundwater monitoring well sample collection procedures including: purging; stabilization of monitoring parameters; and sample collection should be conducted in accordance with EPA Region II Ground water Sampling Procedure, Low Stress (Low Flow) Purging and Sampling, March 1998. This SOP can be found at the following Website: <http://www.epa.gov/region2/smb/sops.htm>.

Response:

Low flow techniques will be employed for the collection of ground water activities.

4. SOP Decontamination of Drilling Rigs and Equipment, page 10.1-1:

37. 1. Use of a 10% nitric acid solution is recommended for use in decontaminating equipment when inorganic parameters are of concern. Similarly, when collecting samples undergoing organic analyses, an acetone only or methanol followed by hexane rinse is recommended.

Response:

A nitric acid rinse will be performed of all non-stainless steel equipment used for collecting samples on future field sampling activities. These comments were received on June 2, 2000, after the initial phase of field work (April 1 – May 5, 2000) was completed. Similarly, an appropriate organic solvent will be used to rinse all equipment used for collecting organic sample fractions for future field work.

38. b. The specific decontamination procedures for all sampling equipment should be better described in this SOP.

The required decontamination procedures for all sampling equipment are as follows:

1. Wash and scrub with a tap water and low phosphate detergent
2. Tap water rinse
3. Rinse with 10% HNO₃, ultrapure
4. Tap water rinse

5. *An acetone only or a methanol followed by hexane rinse (solvents must be pesticide grade or better)*
6. *Thorough rinse with deionized demonstrated analyte free water*
7. *Air dry, and*
8. *Wrap in aluminum foil for storage or transport.*

Response:

This decontamination procedure will be added to rinse all sampling equipment prior to collection of samples for future sampling events.

39. *3. Records verifying the use of analyte free water should be available on site and kept in the project files.*

Response:

Records such as brand name and lot number of the analyte free water used will be kept in the field log.

40. *5. SOP Soil Sampling for VOCs Using the EnCore• Sampler, page 4.8-1: It is recommended that the attached procedure (Procedures For Collecting Samples When Using EnCore• Samplers for Analysis Through the USEPA Contact Laboratory Program) be used when collecting soil samples using the EnCore• sampler for volatile organic analysis. Volume requirements should be verified with the selected laboratory.*

Response:

The EnCore™ sampler will be used to collect soil samples destined for organic analyses.

COMMENTS FOR THE NAVAL AMMUNITION SUPPORT DETACHMENT
DRAFT MASTER QUALITY ASSURANCE PROJECT PLAN
DRAFT WORK PLAN
MARCH 2000

General Comments

Several references are made throughout these documents to the Master Work Plan, Standard Operating Procedures, Appendices to the Master Work Plan, the Master Sampling and Analysis Plan, the Master Field Sampling Plan. These documents were not submitted for review with the Work Plan or QAPP. Therefore, any reference made to these documents regarding sampling, analytical and data validation procedures could not be verified for their appropriateness.

Response:

The entire draft Master Work Plan will be submitted May 5, 2000. This document includes the Project Management Plan, Field Sampling Plan, Quality Assurance Project Plan, Data Management Plan, Investigative Derived Waste Management Plan, Health and Safety Plan, Checklists, and Standard Operating Procedures.

It is stated in Section 1.0 of the QAPP that all field sampling and laboratory analyses will be conducted in accordance with the Navy Installation Restoration Laboratory Quality Assurance Guide, Interim Guidance Document (NFESC, February 1996). Since this document was not included with the submittal, we could not verify compliance with the 1999 Interim Final QA/R-5, EPA Requirements For QAPPs For Environmental Data Operations, which defines the current EPA requirements for QAPPs. Guidance on preparing QAPPs may be found in a companion document, 1998 QA/G-5, EPA Guidance For QAPPs. Both of these reference documents can be found on the EPA Internet address (http://es.epa.gov/ncerqa/qa/qa_docs.html)

The routine elements of a Quality Assurance Project Plan, specified in EPA QA/R-5 (interim final 11/99) are as follows:

- Project/Task Organization
- Problem Definition/Background
- Project/Task Description
- Quality Objectives and Criteria for Measurement Data
- Special Training Requirements/Certifications
- Documentation and Records
- Sampling Process Design
- Sampling Methods Requirements
- Sample handling and Custody Requirements
- Analytical Methods Requirements
- QC Requirements

- Instrument/Equipment Testing, Inspection and Maintenance Requirements
- Inspection/Acceptance Requirements for Supplies and Consumables
- Data Acquisition Requirements
- Data Quality Management
- Assessments and Response Actions
- Reports to Management
- Data Review, validation, and Verification Requirements
- Validation and Verification Methods
- Reconciliation with User Requirements.

Only those elements listed above which differ from that specified in the previously submitted QAPP need be addressed.

Response:

The QAPP has been modified to include all of the elements listed in the above outline.

The QAPP is to contain the names, titles, and dated signatures of approving officials from those organizations involved in this activity. In addition, a distribution list containing the individuals and their organizations who will receive a copy of the approved QAPP (and any subsequent modifications) should be provided. This is to include all field personnel involved in sampling and/or on-site analysis.

Response:

The names, titles, and dated signatures of approving officials have been added to the QAPP. A distribution list has been added to the QAPP. Copies will be provided to all field personnel.

The individuals included in the Organizational Chart (Figure 3-1) of the QAPP should be named and their responsibilities clearly defined.

Response:

Figure 3-1 has been modified to include the names of individuals listed in the organizational chart. A description of each position and their responsibility has been added to the QAPP.

Each SWMU specific SAP should reference the pertinent sampling, analytical and data validation SOPs for the activities to be performed at each SWMU.

A discussion of the acceptance and performance criteria (DQOs) as applicable to the project specific action levels or ARARs should be incorporated into the plan. In addition, a tabular presentation of the ARARs should be included. Ensure that laboratory analytical methods selected will be appropriate when comparing the ARARs to method reporting limits. In this instance, it will be necessary to use low concentration methods in order to comply with drinking water standards.

Any and all deviations to the Work Plan/QAPP/FSP should be reported to the appropriate contacts of the Puerto Rico Environmental Quality Board, U.S. EPA, Department of the Navy and CH2MHILL.

Sampling Comments

Ensure that the specifics of drilling methods, well construction procedures, sampling procedures, and analytical methods are provided in the documents referenced in this Work Plan and QAPP.

Prior to implementing the sampling program, verify that the analytical methods proposed will address all of the known contaminants of concern, defined by historic site activity and all of the materials known to have been disposed of or burned on this site.

When collecting groundwater samples, EPA recommends following the 3/16/98 Region 2 Low Stress (Low Flow) Groundwater Sampling SOP. This SOP can be located at the web site listed in comment #6 above.

It is indicated in Table 3-2 of the Work Plan that soil/sediment samples will be collected using the Encore™ sampler. The SOP for using Encore™ samplers should be included in the QAPP or Master SAP. Duplicate soil samples collected for volatile organic analysis should be collected as collocated samples. These samples are not to be homogenized or split.

Reference standards used in the field for instrument calibration should be labeled with an expiration date and recorded in the log. This information would be checked during a field audit.

Records verifying the use of analyte free water for trip blanks should be available on site.

Region 2 requires use of temperature blanks in coolers to verify that the samples have been maintained at 4°C. The temperature blank should consist of a sample container filled with non-preserved water (potable or distilled) and included in each cooler containing samples (soil and aqueous) being sent for analysis. The container should be labeled "COOLER TEMPERATURE INDICATOR" and dated. Temperature of the blank should be taken and recorded on the chain of custody record immediately upon receipt at the laboratory, prior to inventory and refrigeration.

Laboratory/Analytical Comments

The designated laboratory for this project should be determined and named. The laboratory's qualifications (i.e. Laboratory Quality Assurance Plan (LQAP), certifications, SOPs for the analytical methods to be performed, performance evaluation (PE) sample results, etc.) should be stated in the Plan.

The laboratory SOP for SW-846 Method 8330 to be followed for explosives in soil and aqueous matrices should be provided in the Plan.

Table 8-1 of the QAPP should be revised to indicate the most current Statement of Work for low concentration VOCs analysis in water, which is, Low Concentration Organic Analysis (OLC02.1), February 1996.

Data Validation Comments

1. Provide information regarding the subcontractor data validation company to be employed. This is to include the company name and individual personnel qualifications for those involved in this project.

2. In lieu of using the National Functional Guidelines for Organic and Inorganic Data Review, the data validation protocols preferred are those developed by Region 2. The regional SOPs are more detailed and define specific acceptance/performance criteria as well as subsequent qualifier codes applicable to organic and inorganic data. The Region 2 protocols can be found at:

<http://www.epa.gov/region02/smb/sops.htm>

Please note, use of the regional data validation procedures requires examination of the organic and inorganic sample raw data, e.g. chromatograms, spectra, quant reports, and instrument print-outs.