



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

FEB 24 2011

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Mark E. Davidson
US Navy
BRAC PMO SE
4130 Faber Place Drive - Suite 202
North Charleston, SC 29405

Re: Naval Activity Puerto Rico (NAPR), formerly Naval Station Roosevelt Roads,
EPA I.D. Number PRD2170027203

- 1) SWMU 1 (Army Cremator Disposal Site) – Draft Sampling and Analysis Plan for Debris Removal, dated December 9, 2010
- 2) SWMU 67 (Former Langley Drive Gas Station) - Draft Phase I RFI Report, dated October 29, 2010
- 3) SWMU 71 (Former Quarry Disposal Site) - Final Full RCRA Facility Investigation Work Plan, dated October 21, 2010
- 4) AOC F Site 1738 – Draft MTBE Investigation Report, dated January 27, 2011,
- 5) AOC F - revised Year 8 MNA Annual Report, dated February 11, 2011.

Dear Mr. Davidson:

This letter is addressed to you as the Navy's designated project coordinator pursuant to the January 29, 2007 RCRA Administrative Order on Consent ("the Consent Order") between the United States Environmental Protection Agency (EPA) and the U.S. Navy (the Navy).

SWMU 1 – Draft Sampling and Analysis Plan for Debris Removal

EPA has completed its review of the above document, submitted on behalf of the Navy by Tetra Tech's (Ms. Linda Klink) letter of December 9, 2010, and determined it is not fully acceptable. As part of that review, EPA requested our consultant, TechLaw Inc., to review this document. TechLaw's comments are given in the enclosed Technical Review dated January 13, 2011 (Enclosure #1).

The Puerto Rico Environmental Quality Board (PREQB) has also submitted comments with its letter of January 14, 2011 to myself. A copy of PREQB's letter is attached (Enclosure #2).

Within 75 days of your receipt of this letter, please submit a revised Sampling and Analysis Plan and/or responses which address the comments given in enclosures #1 and #2.

SWMU 67 - Draft Phase I RFI Report

EPA has completed its review of the Draft Phase I RFI Report (the report), submitted on behalf of the Navy by Baker Environmental's (Mr. Mark Kimes) letter of October 29, 2010. EPA does not fully concur with the conclusions in Section 7.1 of the report that state that the results of the Phase I RFI investigations indicate that *only* surface soils and estuarine wetland sediments may have been impacted by releases. Furthermore, EPA does not fully concur with the conclusion (in Section 7.1 of the report), nor has the Navy demonstrated, that the exceedences of organic and inorganic constituents in the subsurface soils and groundwater "... are not characteristic of a release from a gas station and likely represent natural variation of soil and groundwater." EPA's basis for this is discussed below.

In Section 6.4 of the report it is indicated that concentrations measured in the groundwater samples exceeded one or more screening criteria for the organic constituent naphthalene and for 4 inorganic constituents (copper, mercury, selenium, and vanadium). EPA notes that in fact, the report states in Section 6.4 that "Based on organic and inorganic exceedences, contamination in the groundwater has been delineated." Therefore, the proposed Full RFI work plan should include investigations to fully characterize that groundwater contamination.

Furthermore, in Section 6.3 (Subsurface soils) of the report it is indicated that arsenic, cobalt, lead, mercury, nickel, vanadium, and zinc were detected at concentrations exceeding screening criteria, and that "...contamination may have occurred in the subsurface soil, although the source has not been determined." In addition, it is indicated in Section 6.3 that eight volatile organic constituents (VOCs) and 16 semi-volatile organic constituents (SVOCs) were also detected at low concentrations in the subsurface soils. Though the VOCs and SVOCs were all detected below screening criteria, their occurrence in the subsurface soils indicates past releases of these constituents have likely occurred from the former gas station operations or other Navy activities. Therefore, as part of the Full RFI required for this SWMU, the nature and extent of the indicated subsurface soil contamination must be fully characterized as regards both the 7 inorganic constituents detected above screening criteria and the 8 VOCs and 16 SVOCs detected in the subsurface soils, but at concentrations below applicable screening criteria.

In addition, the discussion of estuarine wetland sediments in Section 7.1 of the report needs to be revised to indicate that the constituent lead was detected at sample 67SD01 at an estimated concentration of 134 mg/kg, exceeding both the ecological screening value and the base-wide background concentration.

Also, the discussion in Section 6.1.3 (Background Screening Values) needs to be expanded to discuss the applicability of the freshwater drainage ditch sediment background data set given in the July 2010 "Revised Final II Summary Report for Environmental Background Concentrations of Inorganic Compounds" to the estuarine wetland sediments at SWMU 67.

In addition, PREQB has also submitted comments on the report with its letter of December 10, 2010 to myself. A copy of PREQB's letter is attached (Enclosure #3).

Within 90 days of your receipt of this letter, please submit a revised Section 6.1.3 (Background Screening Values) and Section 7.0 (Conclusions and Recommendations), and any other applicable sections of the draft Phase I RFI Report to address the above comments and PREQB's December 2010 comments.

At that same time, please also submit a Draft Work Plan for implementing a Full RFI which will: a) fully characterize the nature and extent of the indicated releases to the surface soils and estuarine wetland sediments (as indicated in Section 7.2 of the report); b) fully characterize the nature and extent of the indicated releases to groundwater (as described in Section 6.4 of the report); c) fully characterize the nature and extent of subsurface soil contamination as regards both the 7 inorganic constituents detected above screening criteria and the 8 VOCs and 16 SVOCs detected in the subsurface soils at concentrations below screening criteria (as described in Section 6.3 of the report); and d) determine whether releases have impacted the former parking/lay down area currently underlying the tennis courts, located adjacent to the south side of SWMU 67, as discussed in Section 7.2 of the report.

SWMU 71 - Final Full RCRA Facility Investigation Work Plan

EPA has completed its review of the Responses to EPA's August 24, 2010 Comments and the Revised Full RFI Work Plan, both submitted on behalf of the Navy by Baker Environmental's (Mr. Mark Kimes) letter of October 21, 2010. EPA has determined that they are not fully acceptable. As part of that review, EPA requested our consultant, TechLaw Inc., to review this document. TechLaw's comments are given in the enclosed Technical Review dated January 24, 2011 (Enclosure #4).

PREQB has also submitted comments with its letter of November 8, 2010 to myself. A copy of PREQB's letter is attached (Enclosure #5).

Within 75 days of your receipt of this letter, please submit a revised Full RFI Work Plan and/or responses which address the comments given in enclosure #4 and #5.

AOC F Site 1738 – Draft MTBE Investigation Report

EPA has completed its review of the Draft MTBE Investigation Report (the MTBE report), submitted on behalf of the Navy by Baker Environmental's (Mr. Mark Kimes) letter of January 27, 2011. Since, as discussed in Section 7.1 (Conclusions) the extent of the MTBE releases at site 1738 have not been fully delineated, and additional investigations are proposed, as described in Section 7.3 (Recommendations), EPA will approve the MTBE report, but as an interim report only. In addition, since no schedule was given for completing the additional activities described in Section 7.3 (Recommendations) of the MTBE report, or then submitting a draft comprehensive MTBE Investigation Report, which fully characterizes the nature and extent of any MTBE plumes at Site 1738, such a schedule needs to be submitted, as discussed below.

Please note that PREQB has indicated it will submit its review comments on the MTBE Investigation Report to me during the week of March 7th. I will forward those to you when received.

AOC F - revised Year 8 Annual Report

EPA has completed its review of the above document and the Navy's Responses to the comments transmitted with by EPA's letter of December 8, 2010. Both were submitted on behalf of the Navy by Baker Environmental's (Mr. Mark Kimes) letter of February 11, 2011. EPA has determined that the Responses and the revisions to the report are acceptable. EPA notes that in your responses to EPA's comments, the Navy agrees to implement replacement of four wells at Sites 124/2842 in conjunction with the Year 8/Quarter 4 sampling event. EPA requests that upon installation of the replacement wells, please include in the Year 8 Quarter 4 report details regarding those replacement well installations and completion logs for all of the newly installed wells.

EPA also notes that the Navy agrees to implement a "more aggressive approach to clean-up free product and dissolved constituents at Site 520" and outlines a conceptual approach. However, the letter indicates the proposal is based on "funding availability" and therefore, no schedule provided for implementing those actions. EPA will concur with the delay until funding is available; however, in the next AOC F Quarterly report and each subsequent report, until such funding is secured, please provide either a schedule for implementing the more aggressive approach to clean-up at Site 520, or an update on the status of funding for its implementation.

In addition, EPA has reviewed the schedules for developing and implementing a proposed Treatability Study for AOC F Site 1738, which were submitted on February 11, 2011 with the revised Year 8 Annual Report, and with the draft Treatability Study Work Plan, submitted on February 18, 2011. While EPA has not completed its review of the Treatability Study Work Plan itself, EPA notes that neither schedule includes time frames for completing the additional investigation activities described in Section 7.3 (Recommendations) of the MTBE report (discussed above). Also, the schedule included with the February 18, 2011 Treatability Study

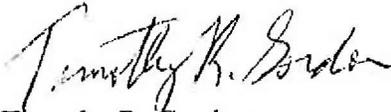
Work Plan and the schedule submitted with the revised Year 8 Annual Report do not fully agree with one another. It appears that the schedule submitted with the revised Year 8 Annual Report, is more up-to-date. Based on that schedule the draft report on the Treatability Study is proposed to be submitted in April 2012.

Since any proposal to address/remediate the MTBE plumes at Site 1738 should incorporate the results of both the comprehensive MTBE Investigation Report (discussed above) and the proposed Treatability Study Work Plan, please also include with the requested schedule for completing the additional activities described in Section 7.3 of the MTBE report proposal, a time frame to submit a draft remedy proposal to address/remediate the MTBE plumes at Site 1738. Such a proposal should incorporate the results of both the Treatability Study Work Plan and the comprehensive MTBE Investigation Report, and therefore should not be submitted prior to April 2012, following completion of both.

Therefore, within 50 days of your receipt of this letter, please submit a schedule for: a) completing the additional activities described in Section 7.3 of the MTBE report; b) then developing and submitting a comprehensive MTBE Investigation Report, fully characterizing the nature and extent of any MTBE plumes at Site 1738; and c) upon completion of the Treatability Study, developing and submitting a draft remedy proposal to address/remediate the MTBE plumes at Site 1738. Also, within 50 days of your receipt of this letter, please submit a figure showing the proposed additional sampling locations described in Section 7.3 (Recommendations) of the MTBE report.

If you have any questions, please telephone me at (212) 637- 4167.

Sincerely yours,



Timothy R. Gordon
Project Coordinator
Resource Conservation and Special Projects Section
RCRA Programs Branch

Enclosures (5)

cc: Ms. Wilmarie Rivera, P.R. Environmental Quality Board, w/encls. #1 & #4, only
Ms. Gloria Toro, P.R.Environmental Quality Board, w/encls. #1 & #4, only
Mr. Mark Kimes, Baker Environmental, w/encls.
Ms. Linda Klink, Tetra Tech, w/encls. #1 & #2 only
Ms. Cathy Dare, TechLaw Inc., w/o encls.
Mr. Felix Lopez, USF&WS, w/o. encls.

**REVIEW OF THE DRAFT SAMPLING AND ANALYSIS PLAN
ON-SITE CONSTRUCTION SUPPORT FOR DEBRIS REMOVAL
SWMU 1 – FORMER ARMY CREMATOR DISPOSAL SITE
DATED DECEMBER 2010**

**NAVAL ACTIVITY PUERTO RICO
CEIBA, PUERTO RICO
EPA ID No. PR2170027203**

Submitted to:

**U.S. Environmental Protection Agency
Region 2
290 Broadway
New York, NY 10007-1866**

Submitted by:

**TechLaw, Inc.
205 West Wacker Drive
Suite 1622
Chicago, Illinois 60606**

EPA Task Order No.	002
Contract No.	EP-W-07-018
TechLaw TOM	Cathy Dare
Telephone No.	315-334-3140
EPA TOPO	Timothy Gordon
Telephone No.	212-637-4167

January 13, 2011

**REVIEW OF THE DRAFT SAMPLING AND ANALYSIS PLAN
ON-SITE CONSTRUCTION SUPPORT FOR DEBRIS REMOVAL
SWMU 1 – FORMER ARMY CREMATOR DISPOSAL SITE
DATED DECEMBER 2010**

**NAVAL ACTIVITY PUERTO RICO
CEIBA, PUERTO RICO
EPA ID No. PR2170027203**

The following comments were generated based on the review of the December 2010 *Draft Sampling and Analysis Plan, On-Site Construction Support for Debris Removal, SWMU 1 – Former Army Cremator Disposal Site, Naval Activity Puerto Rico (NAPR), Ceiba Puerto Rico*, (hereinafter referred to as the SAP).

GENERAL COMMENTS

1. The on-site construction support for debris removal described in this SAP presents Unexploded Ordnance (UXO) Technicians investigating and removing Munitions and Explosives of Concern (MEC) and Material Potentially Presenting an Explosive Hazard (MPPEH) so that the debris removal contractor will have a safe working environment. No sampling and analysis is specified for this clearance/avoidance phase of work. Ensure that, once this process is completed, a thorough sampling process for all potential MEC related contaminants is conducted in Solid Waste Management Unit (SWMU) 1.
2. The SWMU1 MEC related work is surface clearance only (Phase 1), concentrating on the debris piles, access routes and equipment lay-down yards. SWMU 1 is referred to as a “landfill” many times in this document, and many similar SWMU areas on other Base Realignment and Closure sites have had relatively shallow burial trenches and pits. These types of trenches and pits could be initially identified with the magnetometers listed for use in this SAP. Revise the SAP to ensure that any areas where the UXO Technicians suspect any burial trenches/pits to be present are recorded, to include global positioning system (GPS) positional data for use in later analysis.
3. Worksheet #7 indicates that the TetraTech Project Quality Assurance Manager (QAM) will perform the data quality review; however, Worksheets #34 and #35 list the Project Manager and UXO Manager but not the QAM for the data quality tasks. As such, it is unclear if the data quality tasks will be performed by an independent party. Revise the SAP to clarify this information and ensure that data quality reviews will be conducted by an independent party that has not participated in field activities.
4. The corrective action presented in the SAP is insufficiently detailed. For example, the SAP does not indicate that EPA will be notified of any significant changes or corrective action. Revise worksheets #6 and #32 to indicate that EPA will be notified of any significant changes or corrective action and provide the timeframe for this notification.

SPECIFIC COMMENTS

1. **Worksheet #10, Section 10.4, SWMU 1 CSM Summary for MEC, page 35:** This paragraph states that “chemical contamination at SWMU 1 is being addressed independently; however, although metals contamination was investigated, other munitions-related chemical constituents associated with the site may not have been addressed, and so future Munitions Constituents (MC) sampling may be required.” As is noted, this site will require further sampling for MC as well as hazardous toxic waste products. Ensure that this requirement is reflected in any succeeding versions of the SAP.
2. **Worksheet #12, Measurement Performance Criteria Table, page 45:** The Detector-Aided Visual Survey and Manual MEC/MPPEH Operations row and the Measurement Performance Criteria column states “non-detection of MEC/MPPEH would result in failure of QC.” As this phrase could be confusing to the reader, revise it to state that, “discovery of any MEC/MPPEH not previously detected would result in failure of QC.”

A similar phrase that reads, “non-observation of MEC/MPPEH would result in failure of QC,” is found in the Mechanized (low-input) Operations row (page 46). This would be easier to understand if it read, “observation of MEC/MPPEH by QC would result in failure of QC.” These phrases are repeated on Worksheet #20 (page 74). Perform a global search for the above phrases and correct them as necessary.
3. **Worksheet #17, Section 17.6, Detector-Aided Visual Survey and Manual MEC/MPPEH Operations, page 63:** The last paragraph of this section notes that MDAS (material documented as safe) will be demilitarized by crushing the item with the excavator on site. Some ordnance items may be encountered (e.g., a Mk 76 practice bomb) that will not be crushable. Revise the cited worksheet to describe any other demilitarizing processes that would be used for such items.
4. **Worksheet #17, Section 17.8, MEC Management/Treatment, page 66:** A secure treatment area for explosive treatment of MEC/MPPEH and Blow-in Place (BIP) procedures is described in paragraphs 17.8.1 and 17.8.3 (page 69). However, these sections lack detail regarding contamination evaluations. Revise the sections to describe any site evaluations for current contamination and controls to prevent continued contamination at the demolition site(s). Also, state whether soil samples will be collected at the beginning and end of demolition operations.
5. **Worksheet #17, Section 17.8.3, MEC Treatment, page 69:** The described treatment for MEC/MPPEH is by detonation, although this process may not be fully effective on propellant filled munitions such as rocket motors. Revise the worksheet to describe any additional procedures, such as burning, that will be required to remove all energetic material and subsequently certify the ordnance as safe.

6. **SAP Worksheet #29 – Project Documents and Records Table, Pages 85-86:** This table indicates that certain documents will be maintained in the Project File, but does not indicate where the project file is located or how long project files will be stored. Revise the table to provide this information.

MINOR COMMENTS

1. **Acronyms, page 2:** Some of the listed acronyms have minor issues with their definitions. These acronyms and the correct definitions are:

ATF: Bureau of Alcohol, Tobacco, Firearms, and Explosives
DDESB: Department of Defense Explosives Safety Board
HFD: Hazardous Fragment Distance

Correct these acronyms as noted.

2. **References, page 5:** The reference which reads as follows is out of date: “Department of Defense (DoD), Feb 2008. *DOD Ammunitions and Explosives Safety Standards DOD 6055.9-STD.*” The correct cite is: “Department of Defense (DoD), Feb 2008 (administratively reissued August 4, 2010). *DOD Ammunitions and Explosives Safety Standards DoDM 6055.09-M.*” Revise this reference as noted.
7. **SAP Worksheet #22 – Field Equipment Calibration, Maintenance, Testing, and Inspection Table, Page 76:** There is an undefined table note placed after the “Activity” column-header. Revise the table to define this table note or remove it from the table.



COMMONWEALTH OF PUERTO RICO
Office of the Governor
Environmental Quality Board



ENVIRONMENTAL EMERGENCIES RESPONSE AREA

January 14, 2011

Mr. Timothy Gordon
U.S. Environmental Protection Agency -- Region II
290 Broadway -- 22nd Floor
New York, New York 10007-1866

**RE: TECHNICAL REVIEW DRAFT SAMPLING AND ANALYSIS PLAN
ON-SITE CONSTRUCTION SUPPORT FOR DEBRIS REMOVAL
SWMU 1 - FORMER ARMY CREMATOR DISPOSAL SITE
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO**

Dear Mr. Gordon:

PREQB has conducted a technical review of the Draft Sampling and Analysis Plan On-Site Construction Support for Debris Removal, SWMU1 - Former Army Cremator Disposal Site, Naval Activity Puerto Rico (NAPR), Ceiba Puerto Rico, dated December 2010. Our comments are provided in the attachment.

If you have any additional comment or question please feel free to contact Gloria M. Toro Agrait at (787) 767-8181 extension 3586 or myself at extension 6129.

Cordially,

Wilmarie Rivera
Wilmarie Rivera

Federal Facilities Coordinator
Environmental Emergencies Response Area

cc: Gloria M. Toro Agrait, EQB Hazardous Waste Permits Division

**PREQB Technical Review of the Draft Sampling and Analysis Plan
On-Site Construction Support for Debris Removal
SWMU1 – Former Army Cremator Disposal Site
Naval Activity Puerto Rico (NAPR), Ceiba Puerto Rico
Dated December 2010**

1. SAP Worksheet #3, Distribution List, Page 17: Please change the phone extension of PREQB RPM, Wilmarie Rivera. The phone extension is 6129.
2. Page 58, Section 17.2.4: The statement in this section that, "If non-site personnel or non-essential non-UXO personnel enter an EZ, all MEC operations will cease until the EZ is re-established", is incorrect. Both the U.S. Navy and the U.S. Army Corps of Engineers allow a specific category of personnel, "authorized visitors", to enter a munitions response EZ under certain specific conditions. The U.S. Navy requirements for entry into a munitions response EZ are contained in Enclosure 3, "Guide for Preparing an Explosives Safety Submission", to NOSSA Instruction 8020.15B "Explosives Safety Review, Oversight, and Verification of Munitions Responses" (January 26, 2009) and are copied below:

"6.2.4. Describe the MRS EZ access protocol. In general, access to EZs is limited to personnel essential to the operation being conducted. However, under specific conditions and on a case-by-case basis, authorized visitors may be granted access to the EZ when operations are being conducted. In addition to general munitions response site access requirements, formal written procedures addressing EZ access, including authorized visitor access, must be developed in support of response actions involving MEC and must address the following requirements:

Access to an EZ while munitions response operations are occurring is limited to essential personnel and authorized visitors.

The Unexploded Ordnance Safety Officer (UXOSO) is responsible for conducting an operational risk management (ORM) assessment in accordance with reference (f) prior to initiating response actions involving MEC. In addition, the UXOSO must determine the maximum number of persons (essential personnel and authorized visitors) that can be in the EZ at one time. The ratio of UXO-qualified escorts to visitors will be determined by the UXOSO based on this site-specific operational risk analysis.

Based on the risk posed by the munitions response operation underway, the UXOSO may determine that access to the EZ is unsafe for visitors. However, every effort should be made to accommodate the authorized visitor's needs.

With concurrence of the responsible project manager, the UXOSO will grant EZ access to authorized visitors. Access to the site will be based upon the

operational risk analysis of the scheduled MEC operations and availability of escorts, as well as a demonstrated visitor need and subsequent completion of visitor safety briefings.

Persons requiring access to the EZ must demonstrate a legitimate need for access and obtain authorization from the responsible project manager and UXOSO. At a minimum, the request for authorization will include: names of the individual requesting access, the identification of emergency contacts for these individuals, purpose of visit; task(s) to be performed; and rationale to support EZ access. Persons requesting access must submit their request to the responsible project manager and UXOSO prior to the proposed date of the site visit. This advance notice will allow time for the UXOSO to support the visit request by assigning a qualified escort, conducting an operational risk analysis on the operations planned for the date of the site visit, and preparing a visitor site-specific safety briefing for the planned operations.

Prior to entry, all authorized visitors must receive a site-specific safety briefing describing the specific hazards and safety procedures to be followed within the EZ for operations underway that work day. Each authorized visitor must acknowledge receipt of this briefing in writing.

Authorized visitors to the EZ must be escorted at all times by a UXO-qualified person assigned to the project.

Any authorized visitor that violates the established safety procedures will be immediately escorted out of the EZ and/or site for their own protection and to protect essential personnel working at the site.

Other requirements, such as Occupational Safety and Health Administration (OSHA), may also apply.”

PREQB intends to comply with this guidance and may request entry into the EZ in our official capacity as environmental regulators. Please clarify this in the work plan and include the requirements for potential PREQB entry into the EZ during site operations as authorized visitors.

3. Worksheet #31, Page 89: The entries for the assessment “Manual MJC/MPPEH Removal” need to be filled in.



COMMONWEALTH OF PUERTO RICO
OFFICE OF THE GOVERNOR
ENVIRONMENTAL QUALITY BOARD

ENCL. #3
PUERTO RICO
VERDE /

ENVIRONMENTAL EMERGENCIES RESPONSE AREA

December 10, 2010

Mr. Timothy Gordon
U.S. Environmental Protection Agency – Region II
290 Broadway – 22nd Floor
New York, New York 10007-1866

**REVIEW DRAFT PHASE I RCRA
FACILITY INVESTIGATION REPORT
SWMU 67 – FORMER GAS STATION
NAVAL ACTIVITY PUERTO RICO (NAPR)
CEIBA, PR PR2170027203**

Dear Mr. Gordon:

The Hazardous Wastes Permits Division (HWPD) and the Federal Facility Coordinator has finished the review of the above-mentioned document.

Enclosed please find PREQB's comments issued as part of the technical review. If you have any additional comment or question please feel free to contact Gloria M. Toro Agrait at (787) 767-8181 extension 3586 or myself at extension 6141.

Cordially,

Wilmarie Rivera
Federal Facilities Coordinator
Environmental Emergencies Response Area

cc: Gloria M. Toro Agrait, Environmental Permits Office

Technical Review Draft Phase I RCRA Facility Investigation Report
SWMU 67 – Former Gas Station
US Naval Activity Puerto Rico, Ceiba, Puerto Rico (PR2170027203)
October 29, 2010

PAGE-SPECIFIC COMMENTS

- 1) Page 4-1, Section 4.0: Please revise the bullet discussing sediment samples to show four samples were collected from the adjacent estuarine wetland community and one sample was collected from the adjacent freshwater wetland community, as shown in Section 1.2 and summarized on Table 4-1.
- 2) Page 4-2, Section 4.2, Paragraph 4:
 - a. Please add the depth interval 7 to 9 in the list of second interval samples collected. This depth interval was collected at 67SB03-04.
 - b. Please clarify if each depth interval was preserved for VOCs and GRO immediately after cutting the liner and screening the sample or if samples were preserved when the desired depth interval for analysis was selected.
- 3) Page 4-5, Section 4.5: The report states that the reclassification of the samples collected from the drainage ditch from an upland area to an estuarine wetland community type necessitated redesignating the drainage ditch samples from surface soil samples to sediment samples. It should be noted that this redesignation may not be warranted simply because a sample was collected from a wetland. Wetlands may also contain soils (with hydric characteristics) as well as sediment. The important feature that should be considered is whether the sampling locations may support organisms (e.g., aquatic macrobenthic invertebrates) typically associated with an aquatic community rather than a terrestrial community. The report subsequently states that the sample collected at the culvert outfall location does not represent an aquatic habitat that would support macrobenthic invertebrates. Therefore, for this sample (and perhaps the remaining samples depending on their characteristics), surface soil screening benchmarks should be used to evaluate potential effects on terrestrial organisms and/or estuarine sediment guidelines used if evaluating potential impacts from transport of sediment from this area into downgradient estuarine wetlands providing aquatic habitat.
- 4) Page 5-2, Section 5.2.2: Please add a discussion of the depth to groundwater across the site.
- 5) Page 6-1, Section 6.1.1 and 6.1.1.2: Please include PREQB's Water Quality Standards Regulation (March 2010) as applicable criteria for groundwater.
- 6) Page 6-3, Section 6.1.2.2: Surface water screening values are proposed for evaluating constituents detected in surface water samples at the site. Please include the SB

aquatic life criteria presented in the Puerto Rico Water Quality Standards (March 2010) as the preferential screening benchmark source. This would include the following metals (expressed as total recoverable concentrations): cadmium, copper, lead, nickel, selenium, silver and zinc. Please revise Table 6-3 accordingly citing this source and revising the screening values where appropriate.

- 7) Page 6-5, Section 6.1.2.3: Surface water screening values are proposed for evaluating constituents detected in surface water samples at the site. Please include the aquatic life criteria presented in the Puerto Rico Water Quality Standards (March 2010) as the preferential screening benchmark source.
- 8) Page 6-16, Section 6.5: The text incorrectly refers to “groundwater” samples several times in this section. Please correct to “surface water” samples.
- 9) Page 6-12, Section 6.2:
 - a. Paragraph 2: The text states that VOCs were detected at low, estimated concentrations. However, this is not accurate for some of the acetone and 2-butanone concentrations which were not low or estimated. Please revise the text accordingly.
 - b. Paragraph 3: Please revise the text to state that seventeen (not 19) SVOCs were detected in the surface soil.
 - c. Paragraph 6: Please clarify that the cobalt concentrations were exceedances of residential RSLs.
- 10) Page 6-13, Section 6.3, Paragraph 2: The text states that VOCs were detected at low, estimated concentrations. However, this is not accurate for some of the acetone and carbon disulfide concentrations which were not low or estimated. Please revise the text accordingly.
- 11) Page 6-16, Section 6.4:
 - a. Please revise the text to state the ecological groundwater screening criteria were exceeded for vanadium in five (not six) groundwater samples.
 - b. Please revise the text to state that vanadium exceeded the regional tap water SLs in three (not two) samples: 67GW01, 67GW02 and 67GW05.
- 12) Page 6-18, Section 6.7:
 - a. Paragraph 2: Please revise the text to state that five (not four) VOCs were detected and include m&p-xylenes in the list of detected VOCs.
 - b. Bullet #5: Revise the bullet to state that vanadium exceeded the regional screening levels for both residential and industrial soil in addition to the ecological criteria.
- 13) Page 7-1, Section 7.1:
 - a. In the second bullet, please clarify that lead exceeded its screening criterion at 67SD01.

- b. Please clarify if metals exceeding background and screening criteria will be included as chemicals of potential concern for the Full RFI investigation. This section seems to indicate that metals other than lead are not site-related and attributable to background, yet concentrations exceeded background. Please include those metals that exceeded both background and screening criteria as COPCs for the Full RFI investigation or provide further supporting documentation/discussion to support eliminating them from further investigation.

14) Table 4-1:

- a. Please include the units for the sample depth in the table.
- b. The second subsurface soil sample collected at 67SB03 is listed on the table as 67SB03-04. However, the boring log provided in Appendix B shows this should be 67SB03-03. Please clarify.
- c. Revise the sample date for subsurface soil samples collected at 67SB08 to 3/22/10.
- d. The sample depths for the estuarine sediments are listed as 0-0.25 ft bgs. However, according to the field log book notes by Adam Gailey in Appendix B, the depth interval is 0-0.5 ft bgs. Please clarify.

15) Table 4-2:

- a. Please revise the sample date for equipment rinsate blank 67ER03 to 3/24/10.
- b. According to Section 4.9 and Appendix C, the solid IDW samples were analyzed for TCLP VOCs and TCLP metals, not Appendix IX VOCs and Appendix IX metals, as indicated on this table. Please revise.

16) Table 4-3:

- a. Please revise the units for the soil quantitation limits for metals from ug/L to mg/kg.
- b. Please revise the method description for all metals except mercury and tin to ICP/MS.
- c. Please revise the method number for tin to 6010B, as per the data validation reports in Appendix D.
- d. Please revise the method numbers for all TCLP VOCs to 1311/8260B.
- e. Please revise the preparation method number for TCLP VOCs in soil to 1311/5030B.
- f. Please revise the method description for TCLP VOCs to GC/MS.

Appendix B, Field Log Book Notes

- 1) Adam Gailey notes, 3/28/10, Page 80: The locations of 67SD01 and 67SD02 on the figure drawn in the field logbook are reversed on Figure 4-1 and Figures 6-1 through 6-9. Please clarify and revise as needed.
- 2) Robert Roselius notes, 3/21/10, page 75: The collection of sample 67SB08 is detailed on this page of the field notes. However, in four different locations on this page, the sample is referred to as 57SB08. Please revise.

Appendix B, Chain-of-Custody Forms

- 1) According to the chains-of-custody, soil samples for GRO analysis were collected in one jar with no preservative. According to the analytical method (SW-846 5035/8015B) and Chapter 4 of SW-846, these samples should be collected in preservative similar to VOC soil samples since GRO is a volatile parameter. Without the preservation, sample results are not reliable and should not be used for decision-making purposes. Please explain why these samples were not preserved and revise all tables and validation reports to qualify these data as rejected due to the lack of preservation, as per EPA Region 2 VOC validation guidelines.

Appendix C, Laboratory Analytical Results

- 1) Please explain why the quantitation limits for SVOCs are much higher than those provided in Table 4-3. Table 4-3 indicates that a low-level SVOC method will be performed but these quantitation limits are much higher.

**EVALUATION OF THE OCTOBER 27, 2010, NAVY RESPONSE TO EPA COMMENTS
ON THE DRAFT FULL RCRA FACILITY INVESTIGATION WORK PLAN
SWMU 71 – FORMER QUARRY DISPOSAL SITE, DATED JUNE 11, 2010**

**NAVAL ACTIVITY PUERTO RICO
CEIBA, PUERTO RICO
EPA ID No. PR2170027203**

Submitted to:

**U.S. Environmental Protection Agency
Region 2
290 Broadway
New York, NY 10007-1866**

Submitted by:

**TechLaw, Inc.
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EPA Task Order No.	002
Contract No.	EP-W-07-018
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January 24, 2011

**EVALUATION OF THE OCTOBER 27, 2010, NAVY RESPONSE TO EPA COMMENTS
ON THE DRAFT FULL RCRA FACILITY INVESTIGATION WORK PLAN
SWMU 71 – FORMER QUARRY DISPOSAL SITE, DATED JUNE 11, 2010**

**NAVAL ACTIVITY PUERTO RICO
CEIBA, PUERTO RICO
EPA ID No. PR2170027203**

The following comments were generated based on review of the *October 21, 2010 Final Full RCRA Facility Investigation Work Plan for SWMU 71, Naval Activity Puerto Rico, Ceiba, Puerto Rico* (hereinafter referred to as the Work Plan).

GENERAL COMMENTS

Evaluation of the Response to EPA General Comment 1: The response partially addresses the comment. However, because the laboratory has not been selected, laboratory specific standard operating procedures (SOPs), quality control (QC) limits, and quantitation limits (QLs) have not been included in the Work Plan. Additionally, Table 3-3 states that the QLs listed for soil are based on wet weight and that the quantitation limits calculated by the laboratory on a dry weight basis will be higher. Since screening levels are based on dry weight calculations, it is unclear whether the chosen laboratory's dry weight QL will be able to meet screening levels. Ensure that when a laboratory is selected, laboratory specific SOPs, QC limits, and QLs are included in the Work Plan as an addendum. Also, revise the Work Plan to clarify how it can be ensured that the laboratory will be able to meet screening levels when reporting results are on a dry weight basis.

Evaluation of the Response to EPA General Comment 2: The response partially addresses the comment. However, the decision process behind the selection of sample locations and depths and why it will address study goals is not clearly stated. Revise the Work Plan to include a more specific rationale behind why the number and locations of samples is sufficient to meet study goals.

Evaluation of the Response to EPA General Comment 3: The response is not adequate. The lack of surface soil sampling at the Lower Area portion near/adjacent to the Commissary Building and parking lot represents a data gap for a human health risk assessment (HHRA). While a HHRA will not be conducted as part of the RFI, the data collected as part of the RFI should be sufficient to support a defensible HHRA should a HHRA and Corrective Measures Study (CMS) be necessary. It is acknowledged that these soils were disturbed during the construction of the parking lot and Commissary Building and that subsurface samples are proposed in the Lower Area, and both surface and subsurface soils are proposed in the Upper Area. However, the proposed surface soil samples in the Upper Area are located more than 160 feet north of the Commissary Building and parking lot. Additionally, it is important to understand the potential exposures to site receptors contributing from both the Upper and Lower Areas. As an example, site receptors encountering the parking lot may be exposed to dust derived from surface soil for both areas. Also, even if the risk and hazard associated to surface soil collected from the Lower Area does not represent a risk and hazard above 1E-06 or 1.0,

respectively, it is necessary to understand the cumulative exposures at SWMU 71. Should a HHRA be conducted, the lack of surface soil sampling of the Lower Area would represent a data gap and would likely undermine the HHRA conclusions.

Evaluation of the Response to EPA General Comment 4: The response does not appear to be adequate. Several bullets in Section 3.1, Soil Sampling and Analysis Program, indicate that contamination was previously detected at the seven to nine feet below ground surface (bgs) interval. It is unclear why sampling is not proposed at the nine to 11-foot bgs interval to assist with vertical delineation of contamination. Revise this section to clearly specify the depths at which samples will be collected and provide justification for selection of those intervals. In particular, collection of samples from the nine to 11-foot bgs interval should be considered in the vicinity of soil borings 71SB04 and 71SB05. Further, indicate under what conditions the field geologist would select an interval other than that specified in the Work Plan. Please note that it is inherent in any field investigation program that field conditions may be encountered that do not allow for collection of samples as planned (i.e., because of refusal, low sample recovery, etc.). Without further explanation provided in the text as requested, it should be noted that justification for any field modifications made will need to be provided, and the rationale for the alternate sample location chosen will need to be supported (i.e., sample point/location moved to an alternative location but that the alternative location is still representative of data gaps being filled, or collection of a sample from a higher or lower interval as conditions allow, and why the interval selected is representative of the original conditions being assessed).

Evaluation of the Response to EPA General Comment 5: The response appears to be partially adequate. Given that the anticipated depth of boring refusal is 16 to 29 feet bgs, it appears unlikely that installation of very shallow wells will be necessary. Indicate the well depth and location that is considered to be "very shallow." In addition, Section 3.2, Monitoring Well Installation, does not indicate the minimum length of well screen that will be used. Revise this section to include this information.

Evaluation of the Response to EPA General Comment 7: The response is adequate; however, Table 4-3, Human Health Screening Values, does not include a screening value for pesticides or total petroleum hydrocarbons (TPH)/diesel range organics (DRO). Given that the footnotes of Table 3-1 indicate at least one groundwater sample (Sample 71GW04) will also be analyzed for these parameters, Table 4-3 should include the associated screening values. Revise Table 4-3 to include screening values for pesticides and TPH DRO, or alternatively, resolve any associated discrepancies. Additionally, ensure that the latest Regional Screening Levels (RSLs) are used in the RFI.

Evaluation of the Response to EPA General Comment 15: The Navy's response does not fully address the intent of EPA General Comment 15. EPA and TechLaw are aware that Section 4.6.2, Human Health Screening Values, indicates that Tap Water RSLs will be used in the Full RFI screening for groundwater, but acknowledges that Maximum Contaminants Levels (MCLs) will also be used. The intent of EPA General Comment 15 was to recommend that where EPA Tap Water RSLs are more protective than MCLs, EPA Tap Water RSLs be used in determining and delineating the nature and extent of contamination in groundwater. Given that a HHRA will



COMMONWEALTH OF PUERTO RICO
Office of the Governor
Environmental Quality Board

ENCL. # 5
PUERTO RICO
VERDE

ENVIRONMENTAL EMERGENCIES RESPONSE AREA

November 8, 2010

Mr. Timothy Gordon
U.S. Environmental Protection Agency – Region II
290 Broadway – 22nd Floor
New York, New York 10007-1866

**Re: Review Response to Comments and Final
RCRA Facility Investigation Work Plan for
SWMU 71 – Quarry Disposal Site
Naval Activity Puerto Rico, Ceiba, Puerto Rico
EPA ID Number: PR2170027203**

Dear Mr. Gordon:

The Puerto Rico Environmental Quality Board (PREQB) has completed its review of the Responses to Comments on the Draft Full RCRA Facility Investigation Work Plan (October 21, 2010). The document was prepared as a result of EPA and PREQB comments dated June 11, 2010 and July 30, 2010, respectively.

The Navy responses to PREQB comments on the document are acceptable with some exceptions. Enclosed please find a discussion of the comments that needs to be further clarified. If you have any additional questions or comments, please contact Gloria M. Toro at (787) 767-8181, extension 3586 or myself at extension 6129.

Cordially,

Wilmarie Rivera Otero
Federal Facilities Coordinator

cc. Gloria M. Toro Agrait, Environmental Permits Officer II

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Technical Evaluation of the Navy Response to PREQB Comments
on the Draft Full RCRA Facility Investigation Work Plan for SWMU 71
Naval Activity Puerto Rico, Ceiba, Puerto Rico
October 21, 2010

The Navy response to PREQB comments on the Draft Full RCRA Facility Investigation Work Plan for SWMU 71 are acceptable, with the exception of the following comments:

6. Page 3-2, Section 3.1, Lower Area:

- e. Bullets 1 to 4: Please clarify why soil that may have been graded or reworked during construction activities is being excluded from investigation. If soil was impacted by past releases and then moved around an area, elevated concentrations of contamination would still be associated with the past release, similar to natural fate and transport mechanisms moving contamination away from an original release. Please note exclusion of surface soil from investigation is also discussed on Page 3-3, in the second full paragraph.

Navy Response: Navy Response: As indicated in the approved Revised Final Phase I Work Plan for SWMU 71 (Baker, April 2008), surface soil in the lower area is not considered representative of the SWMU releases to the surface and therefore will not be sampled.

PREQB Evaluation of Response: Please clarify if soil was brought in during construction activities or whether soil was only reworked. If soil was only reworked, surface soil sampling is warranted. As discussed in our original comment, if soil was impacted by past releases and then moved around an area, elevated concentrations of contamination could still be associated with the past release, similar to natural fate and transport mechanisms moving contamination away from an original release. A Full RCRA Facility Investigation needs to evaluate the extent of contamination in addition to completing a release assessment. Surface soil should be sampled to evaluate whether elevated concentrations of chemicals of potential concern are present that could pose an unacceptable risk to human health or the environment.

12. Page 4-3, Section 4.6.1.2: Groundwater screening values are proposed for evaluating constituents detected in groundwater samples at the site. Please include the aquatic life criteria presented in the Puerto Rico Water Quality Standards (March 2010) as the preferential screening benchmark source.

Navy Response: Section 4.6.1.2 will be revised to indicate that Puerto Rico Water Quality Standards for aquatic life will be used as the preferential screening benchmark source for groundwater. Based on the likely discharge point for SWMU 71 groundwater and the classifications for coastal and estuarine water contained in Rule 1302.1 of the Puerto Rico Water Quality Standards Regulation, Water Quality Standards for Class SB coastal and estuarine waters will be used. As indicated in Section 4.6.2.1, literature-based freshwater screening benchmarks were used as groundwater screening values for those chemicals lacking a marine and estuarine screening benchmark. Therefore, this section also will be revised to indicate that Puerto Rico Water Quality Standards for Class SD surface water will be used as the preferential screening benchmark source for those chemicals lacking a marine and estuarine value. Water Quality Standards for Class SD surface waters will be used based on the classifications for surface waters contained in Rule 1302.2. Finally, Table 4-2 will be revised as necessary to reflect the use of Puerto Rico Water Quality Standards as preferential screening benchmarks for SWMU 71 groundwater.

PREQB Evaluation of Response: The response is acceptable. Please ensure that the reporting limits are at or below the project action limits should lower values be used based on the response to this comment.

13. Page 4-3, Section 4.6.1.2: Groundwater sampling results are proposed to be screened against surface water screening benchmarks representing dissolved concentrations. Please note that metal ambient water quality criteria presented in the Puerto Rico Water Quality Standards (March 2010) are based on total recoverable concentrations of metals. Please revise the text accordingly.

Navy Response: As indicated in the Navy Response to PREQB Comment No. 12, Section 4.6.1.2 will be revised to indicate that Puerto Rico Water Quality Standards will be used as the preferential screening benchmark source for groundwater. However, as noted by PREQB Comment No. 13 above, Puerto Rico Water Quality Standards for all metals are expressed as total recoverable concentrations. Therefore, the revisions to Section 4.6.1.2 noted by the Navy Response to PREQB Comment No. 12 will include text specifying the Puerto Rico Water Quality Standards for metals are expressed as total recoverable concentrations. Table 4-2 also will be revised accordingly.

PREQB Evaluation of Response: The response is acceptable. Please ensure that the reporting limits are at or below the project action limits should lower values be used based on the response to this comment.

14. Page 4-6, Section 4.6.2.2: Please also include Puerto Rico's Water Quality Standards Regulation (PRWQS) in this section. Please use the more stringent of either the federal WQS or PRWQS as the enforceable groundwater standard.

Navy Response: Section 4.6.2.2 will be revised to indicate that Puerto Rico Water Quality Standards will be incorporated as groundwater screening values in the Full RFI, as applicable. Further, the more stringent of the Federal MCL or PRWQS will be listed as the screening value. However, it is important to note that the PRWQS will be used only as one of the screening tools in the Full RFI, and will not be used to evaluate the potential for human health risks. Further evaluation of the potential for human health risks will be conducted as part of a CMS investigation. In HHRAs conducted for NAPR, only risk-based screening criteria are used in the COPC selection process. As such, PRWQS will not be used to identify groundwater COPCs.

PREQB Evaluation of Response: The response is acceptable. Please ensure that the reporting limits are at or below the project action limits should lower values be used based on the response to this comment.

15. Tables 3-3 and 4-2: Please check the quantitation limits for the aqueous samples versus the screening level presented in Table 4-2. In particular, it appears as though the quantitation limits for copper, nickel and silver exceed the ecological screening values.

Navy Response: The Navy is aware that some of the reporting limits exceed the ecological surface soil screening levels. The analytical laboratory chosen for analyzing data will provide the lowest reporting limits possible. It is noted that the ERA, conducted as part of the CMS, will quantify risks for non-detected chemicals. Non-detected chemicals with maximum reporting limits greater than ecological screening values will be identified as ecological COPCs in Step 2 of the SERA and undergo additional evaluation in Step 3a of the BERA.

PREQB Evaluation of Response: It is PREQB's preference for the quantitation limits to meet the data quality objectives. Please note that for all metals, the QLs provided by the Navy for the 6020 analysis of surface water samples are much higher than QLs typically observed by PREQB for this method. The table below compares typical QLs to those provided by the Navy as well as the standard EPA CLP methodology for ICP/MS. Please provide additional information as to why your lab cannot achieve typical QLs for this method.

Quantitation Limits for SW-846 Method 6020A (ICP/MS)						
Metals by ICP/MS		SWMU 78 Proposed QLs	Lab 1 QLs	Lab 2 QLs	Lab 3 QLs	EPA CLP Method QLs
(ug/L) 6020A	Antimony	20	0.05	1.0	0.5	2
	Arsenic	10	0.5	0.40	0.5	1
	Barium	10	0.05	50	0.5	10
	Beryllium	4.0	0.03	0.40	0.5	1
	Cadmium	5.0	0.03	0.50	0.5	1
	Chromium	10	0.2	10	0.5	2
	Cobalt	10	0.03	NA	0.5	1
	Copper	20	0.1	NA	0.5	2
	Lead	5.0	0.03	1.0	0.5	1
	Nickel	40	0.2	5.0	0.5	1
	Selenium	10	1.5	5.0	1	5
	Silver	10	0.03	0.50	0.5	1
	Thallium	10	0.03	0.20	0.5	1
	Tin	10	0.1	NA	NA	NA
	Vanadium	10	0.3	5.0	0.5	5
	Zinc	20	0.75	20	5	2

- (1) Columbia Analytical Services, Kelso, Washington (DoD Certified)
- (2) Con-test Analytical in East Longmeadow, MA
- (3) Alpha Analytical in Westborough, MA