



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

MAY 29 2007

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Mark E. Davidson
US Navy
BRAC PMO SE
P.O. Box 190010
North Charleston, SC 29419-9010

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

- 1) Draft RFI Report for SWMU 68 (former Southern Fire Training Area), dated March 26, 2007;
- 2) Final RFI Report for SWMU 14 (former "Crash-Crew" Fire Training Area), dated March 23, 2007;

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). EPA Region 2 has completed its reviews of the above documents, which were submitted on behalf of the Navy, pursuant to the requirements of the Consent Order. Based upon our reviews, EPA has the following comments. Additional comments are also given in the two enclosed Technical Reviews prepared for EPA by our consultant, TechLaw, Inc.

Draft Phase I RFI Report for SWMU 68 (former Southern Fire Training Area)

EPA does not fully concur with the conclusions and recommendations made in Section 6.0 of the Draft Phase I RFI Report (the Report) for SWMU 68 (former Southern Fire Training Area), submitted on behalf of the Navy by Mr. Mark Kimes' (of Baker Environmental) letter of March 26, 2007. Specifically, EPA does not fully concur with the statement in Section 6.1 that "...it is concluded that no impact to the groundwater is present due to past Navy operations." Also, EPA does not concur with the statement in Section 6.2 of the Report that "No additional investigations are warranted..."

While EPA does concur with the recommendation given in Section 6.2 of the Report that due to “the presence of lead in the surface soil.....a very limited remedial action for surface soil (excavation and disposal with confirmatory sampling) is warranted”, EPA is concerned that no actions are proposed to address vanadium in the surface and subsurface soils and the groundwater.

EPA notes that although lead concentration of 53 mg/kg found in the surface soil at 68SB08, exceeded the Region IX residential PRG of 40 mg/kg and the base-wide background concentration of 22 mg/kg indicated in the October 17, 2006 “Revised Final Summary for Environmental Background Concentrations for Inorganic Constituents Report” (the Background Report), lead concentrations in the other 10 surface soil samples at SWMU 68 were below both the PRGs and the site-wide background concentrations. Whereas the vanadium concentrations found at SWMU 68 exceeded the corresponding industrial and/or residential PRGs in all 11 of the surface soils samples analyzed and in all 22 of the subsurface soil samples analyzed. Likewise in the groundwater at SWMU 68 the vanadium concentration exceeds its tap water PRG of 3.6 ug/l in all 7 of the samples analyzed. While the maximum vanadium groundwater concentration measured in the groundwater at SWMU 68 of 210 ug/L (estimated) is less than the base-wide background concentration indicated in the October 17, 2006 “Revised Final Summary for Environmental Background Concentrations for Inorganic Constituents Report” (the Background Report), that maximum concentration (210 ug/L) is more than 50 times greater than the corresponding tap water PRG of 3.6 ug/l vanadium. EPA is concerned that the vanadium concentrations measured at SWMU 68 may not be fully ascribable to natural background concentrations. It should further be noted that the deeper subsurface soil sample (68SB04-02) collected at 12-14 feet below grade in boring 68SB04, had a vanadium concentration of 440 mg/kg, which exceeds not only the corresponding residential and industrial PRGs of 7.8 and 102 respectively, but also the indicated “background” concentration of 434 mg/kg established in the Background Report.

In addition, arsenic was found in all 11 surface soil samples at SWMU 68 at concentrations exceeding the Region IX residential PRG, and exceeding the industrial PRG at 4 of the 11 locations. Yet only 1 of the surface soil samples (68SB02) exceeded the base-wide background surface soil concentration for arsenic of 2.65 mg/kg indicated in the October 17, 2006 Background Report. However, 3 of the 11 subsurface surface soil samples (locations 68SB01, SB02 and SB04), found arsenic concentrations exceeding both the Region IX residential and the industrial PRGs and the base-wide background concentration for subsurface soils of 1.59 mg/kg arsenic, indicated in the October 17, 2006 Background Report.

EPA notes that none of the base-wide surface soil and groundwater background samples (in the 2006 Background Report) were collected in the vicinity of SWMU 68; however, 3 of the base-wide subsurface soil background samples (14E-SB-02-02, 14E-SB03-02, and 14 E-SB01-04) were collected during the 2004 Environmental Conditions of Property (ECP) investigations at what subsequently became identified as SWMU 68, and all 3 may have been impacted by contamination, based on reported indications of “DRO” (diesel range organics) in those samples.

EPA also notes that the October 17, 2006 Background Report offered no explanation as to why such elevated vanadium concentrations would be naturally occurring. Thus EPA is concerned that the base-wide background concentrations for arsenic, lead, and particularly vanadium, established in the October 17, 2006 Background Report, may not be fully representative of natural background conditions in the SWMU 68 area and/or may have been impacted by contaminant releases.

Prior to our approving the Draft Phase I RFI report and its conclusion in Section 6.1 of the Report that "It is evident from analysis obtained during the Phase I RFI investigation that there has been very little impact on the environment due to Navy activities at SWMU 68." (Section 6.1), EPA requests that the Navy submit, within 45 days of your receipt of this letter, the following:

- 1) a proposal for implementing additional background sampling for vanadium in surface and subsurface soils and groundwater, in order to more conclusively determine whether or not the elevated vanadium concentrations measured in the surface and subsurface soils and groundwater at SWMU 68 are in-fact natural occurring and not the result of releases from SWMU 68 (or another SWMU or AOC),
- 2) a proposal for addressing the potential human health risks resulting from vanadium in the surface and subsurface soils and in groundwater at SWMU 68, if the additional background sampling does not more conclusively demonstrate that the vanadium concentrations encountered at SWMU 68 are attributable to natural occurring conditions;
- 3) a proposal for addressing the potential human health risks resulting from lead and arsenic in the surface and subsurface soils at SWMU 68; and
- 4) written responses and/or an addendum to the SWMU 68 Draft Phase I RFI Report, which address the additional comments given in the enclosed Technical Review, prepared for us by our consultant, TechLaw, Inc.

Final RFI Report for SWMU 14 (former "Crash-Crew" Fire Training Area)

EPA has completed its review of the Final RFI Report for SWMU 14 (former "Crash-Crew" Fire Training Area), submitted on behalf of the Navy by Mr. Mark Kimes' (of Baker Environmental) letter of March 23, 2007, and determined that it is not fully acceptable. Section 8.12 of the SWMU 14 RFI Report (Conclusions and Recommendations), states that there are unacceptable potential risks a present from benzene and vanadium in the groundwater and from possible ingestion of, and dermal contact with, vanadium at elevated concentrations in surface and subsurface soils. However, no clear recommendations are made with regards to addressing those indicated potential risks.

As discussed previously for SWMU 68, EPA is concerned that the base-wide background concentrations for vanadium, established in the October 17, 2006 Background Report, may not be fully representative of natural background conditions. EPA notes that the October 17, 2006 Background Report offered no explanation as to why such elevated vanadium concentrations would be naturally occurring.

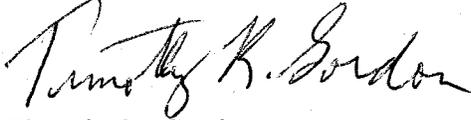
In addition, in Section 8.2 (Conclusions and Recommendations) of the SWMU 14 RFI Report, it is recommended that "...soil samples be collected from the [drainage] ditch [leading from the original fire training pit to a freshwater wetland] to determine if a release has ever occurred." However, no proposal for such sampling was included with the RFI Report and no time frame for submitting it is given.

Prior to our approving the RFI Report for SWMU 14, EPA requests that the Navy submit, within 45 days of your receipt of this letter, the following:

- 1) a proposal for sampling the drainage ditch leading from the original fire training pit to a freshwater wetland, to determine if a release has ever occurred;
- 2) a proposal for completing an ecological risk evaluation, to evaluate potential impacts caused by releases from SWMU 14, including impacts from releases found in the drainage ditch leading from the original fire training pit to a freshwater wetland, if releases are found;
- 3) a proposal for additional background sampling for vanadium in surface and subsurface soils and groundwater to be implemented so as to more conclusively determine whether or not the elevated vanadium concentrations measured in the surface and subsurface soils and groundwater at SWMU 14 are in-fact natural occurring, and not the result of releases from SWMU 14 (or another SWMU or AOC);
- 4) a proposal for addressing the potential human health risks resulting from vanadium in the surface and subsurface soils and groundwater at SWMU 14, should that additional background sampling not more conclusively demonstrate that the vanadium concentrations encountered at SWMU 14 are attributable to natural occurring conditions;
- 5) a proposal for addressing the potential human health risks associated with the dissolved benzene in the groundwater impacted by SWMU 14 releases; and
- 6) written responses and/or an addendum to the SWMU 14 RFI Report, which addresses the additional comments given in the enclosed Technical Review, prepared by our consultant, TechLaw, Inc.

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

Sincerely yours,



Timothy R. Gordon
Remedial Project Manager,
Caribbean Section
RCRA Programs Branch

Enclosure (2)

cc: Ms. Yarissa Martinez, P.R. Environmental Quality Board, with encl.
Mr. Julio I. Rodriguez Colon, P.R. Environmental Quality Board, with encl.
Mr. Pedro Ruiz, Naval Activity Puerto Rico, with encl.
Mr. Dave Criswell, US Navy, BRAC PMO, w/o encl.
Mr. Jeffrey Meyers, US Navy, BRAC PMO, with encl.
Mr. Mark Kimes, Baker Environmental, with encl. ✓
Mr. Matt Lary, TechLaw Inc., w/o encl.
Mr. Felix Lopez, USF&WS, w/o encl.

ENCL. 1

**TECHNICAL REVIEW OF THE NAVAL ACTIVITY PUERTO RICO
PHASE I RCRA FACILITY INVESTIGATION REPORT FOR SWMU 68
DATED MARCH 26, 2007**

**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.
One Penn Plaza, Suite 2509
New York, NY 10119**

**EPA Task Order No.
Contract No.
TechLaw TOM
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**002
EP-W-07-018
Matt Lary
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May 21, 2007

**TECHNICAL REVIEW OF THE NAVAL ACTIVITY PUERTO RICO
PHASE I RCRA FACILITY INVESTIGATION REPORT FOR SWMU 68
DATED MARCH 26, 2007**

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

The following comments were generated based on review of the March 26, 2007 Phase I RCRA Facility Investigation Report for SWMU 68 (Report), Naval Activity Puerto Rico (NAPR) Ceiba, Puerto Rico.

GENERAL COMMENTS

1. This Report does not include a discussion of investigation derived wastes (IDW) or associated IDW sampling. According to Section 3.5.2 of the approved Work Plan, two IDW samples were to be collected, and these samples were to be analyzed to provide information necessary to properly dispose of any IDW generated. Provide discussion related to IDW during the investigation and rationale for any deviations from the approved Work Plan.
2. This Report does not provide discussion regarding decontamination activities associated with this investigation. According to Section 3.5.3 of the approved Work Plan, decontamination was to take place "in accordance with the EPA approved RCRA Facility Investigation Work Plans." Revise the report to include a discussion of decontamination activities conducted during this investigation.

SPECIFIC COMMENTS

1. **Section 4.0 2006 RCRA Facility Investigation Activities, Page 4-1:** This section does not include a discussion of the apparent soil boring (SB) 03 collapse and resulting lack of groundwater samples at this location. According to the field notes presented in Appendix A.1, SB 03 collapsed and a temporary well (TW) could not be installed. Section 4.0, however, states that a TW was not installed at SB 03 "due to a lack of water because of the lean clay observed in the boring samples." Revise the document to address this discrepancy by including a discussion and explanation of the collapse at SB 03.
2. **Section 4.1 Soil Boring Advancement and Temporary Well Installation, Page 4-1:** This section indicates that 10-foot screens were used in the TWs; however, Section 3.2, Monitor Well Installation Program, in the approved Work Plan, states that 5-foot screens would be installed. Revise the Report to address this discrepancy.
3. **Section 4.2.2 Groundwater, Page 4-2:** This section does not provide sufficient rationale for excluding certain analyses for groundwater samples collected from TW 01,

**TECHNICAL REVIEW OF NAVY RESPONSE TO COMMENTS FOR RCRA
FACILITY INVESTIGATION REPORT SWMU 14 - FIRE TRAINING AREA
DATED MARCH 23, 2007**

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

The following comments were generated based on review of the March 23, 2007 Final RCRA Facility Investigation Report for SWMU 14 - Fire Training Area, Naval Activity Puerto Rico Ceiba, Puerto Rico.

GENERAL COMMENTS

1. **Evaluation of Response to EPA General Comment 1:** The Navy's response to Comment 1 appears to be partially adequate. The Navy stated that it would incorporate discussion into Section 6.3.1, Potential Human Receptors, to clarify why only future resident adults, and not future resident children, are being evaluated for inhalation of volatiles in the groundwater. The statement added to the discussion, "Exposure to groundwater as a potable source will be assessed, which includes exposure via ingestion and dermal contact and inhalation while showering (adults only) or bathing," does not clarify why inhalation exposures to children are not being addressed. Revise the document to clarify why exposures to future resident children are not being assessed.
2. **Evaluation of Response to EPA General Comment 2:** The Navy's response to Comment 2 appears to be partially adequate. The Navy indicated that it would update the Human Health Risk Assessment (HHRA) to include vapor intrusion from contaminated groundwater for future resident receptors. The reports text was adequately updated to reflect this determination; however, Appendix H, Table 1, Selection of Exposure Pathways, still does not identify future adult residents and future construction workers as potential receptors based on the vapor migration to indoor air pathway. Update Appendix H, Table 1 to agree with the comment response and the report text.

SPECIFIC COMMENTS

1. **Evaluation of Response to EPA Specific Comment 8:** The Navy's response to Comment 8 appears to be partially adequate. The Navy stated that it would clarify Section 6.4.3, Dermal Absorption Efficiency, to indicate that this analysis was not used in the HHRA, but rather was included for the readers' benefit. The sentences added to the beginning and end of this section provide clarification while also appearing to conflict with the bulk of the discussion. Specifically, statements indicating that factors "were obtained," rather than "can be obtained," lead the reader to believe this analysis was conducted for this HHRA. Modify this section further to more clearly identify the Dermal Absorption Efficiency section as reference information that was not included in HHRA efforts.