



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 2  
290 BROADWAY  
NEW YORK, NY 10007-1866

JUN 11 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 16 (former Waste Explosives Storage Building), dated March 26, 2007;
- 2) Draft RFI Report for SWMU 42 (Water Purification Plant Lagoons) dated March 23, 2007;
- 3) Draft RFI Report for AOC A (former Torpedo Shop), dated April 25, 2007.
- 4) Closure Certification for Building 2009, and former Buildings 2009 A- D, and Proposed Land Use Controls, Building 2009 Area

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 three enclosed Technical Reviews prepared for EPA by our consultant, TechLaw, Inc.

Draft Phase I RFI Report for SWMU 16 (former Waste Explosive Storage Building)

While EPA generally concurs with the conclusions and recommendation given in Section 6.0 of the Report, EPA requests that several items be clarified and/or modified, prior to our approving the Draft Phase I RFI report. Specifically, EPA requests that the Navy submit, within 45 days of your receipt of this letter:

- 1) written responses, and/or revised portions of the Draft Phase I RFI Report, to address all comments given in the enclosed Technical Review prepared by our consultant, TechLaw, Inc.; and
- 2) the recommendation given in Section 6.2 of the Report should be revised to propose either a corrective action complete determination (with or without controls), pursuant to the January 2007 RCRA Consent Order, and describe the basis for that recommendation, or a recommendation for further investigation or other actions.

#### Draft RFI Report for SWMU 42 (Water Purification Plant Lagoons)

EPA does not fully concur with the recommendation given in Section 6.2 of the SWMU 42 RFI Report, that "...no further action is warranted in order to assess environmental impact and/or remediate this site." Specifically, acrolein was detected above both its residential and industrial Region IX preliminary remediation goal (PRG) concentrations for soils in all 5 of the sediment samples collected within the two water purification plant lagoons. Although section 6.1 of the RFI Report states that "This compound [acrolein] is likely associated with aquatic herbicides applied to the lagoon area to prevent weed growth", the fact that it may have resulted from past herbicide usage, would not exempt the Navy from addressing any resulting contamination.

In addition, copper was detected in all 5 of the sediment samples analyzed for inorganic constituents above its residential PRG for soils (but below the industrial PRG) and above the site-wide background "Upper Limit of Means" (ULM) for copper in soils of 168 mg/kg established in the October 2006 base wide Background Report. Also, in all 5 sediment samples vanadium exceeded its residential PRG for soils and its industrial PRG for soils in one sample; however, the vanadium in those sediment samples did not exceed the ULM for soils established in the Background Report.

In all four surface soil and all 6 subsurface soil samples, arsenic was measured at concentrations above the residential PRG concentration, but below the industrial PRG, and below the ULMs of 2.65 mg/kg and 1.59 mg/kg for surface and subsurface soils, respectively, established under the October 2006 Background Report. Vanadium was detected in all 4 surface soils and all 6 subsurface soil samples at concentrations above both the residential and industrial PRG concentrations, but below the ULM of 287 mg/kg and 434 mg/kg, respectively as established under the base wide background concentration established in the October 2006 Background Report. However, as indicated in my letter of May 29, 2007, EPA has concerns about the ULMs established for vanadium under the October 2006 Background Report may not be truly reflective of natural site-wide conditions at the NAPR facility.

In the groundwater, lead was measured above its' maximum contaminant level (MCL) of 0.015 ug/L in two of the four groundwater samples collected at SWMU 42; however, it did not exceed the UCL of 26.25 ug/L established for lead in groundwater under the October 2006 Background Report

The Draft RFI Report does not contain definitive recommendations with regards to potential future risks posed by these inorganic constituent detections or the acrolein detections. Therefore, EPA requests that the Navy submit, within 45 days of your receipt of this letter, the following:

- 1) written responses, and/or revised portions of the SWMU 42 RFI Report, to address the above comments and all comments given in the enclosed Technical Review, prepared for EPA by our consultant, TechLaw, Inc.;
- 2) a proposal for further evaluating human health risks resulting from possible future exposure to the water purification plant lagoon sediments containing acrolein, and/or copper and/or vanadium in concentrations exceeding Region IX PRG residential levels, and possible future exposure to surface and/or subsurface soils containing arsenic and/or vanadium; and
- 3) if an unacceptable human risks are indicated due to possible future exposure to the water purification plant lagoon soils and/or sediments, a proposal for institutional and/or engineering controls and/or remedial measures to address those indicated risks, if any; or,
- 4) if no unacceptable risks are indicated, a recommendation for a Corrective Action Complete (with or without controls) determination, and a discussion of the justification for such a determination.

EPA also notes that the vanadium concentrations measured in the three of the four groundwater samples collected at SWMU 42, are only a fraction (between 1/100 to 1/8) of the "Upper Limit of Means" of 484.66 ug/L for that constituent, as established under the base wide background concentration established in the October 2006 Background Report. This suggests to EPA that the natural occurring vanadium background levels in groundwater may not be correctly established by the October 2006 Background Report, and that as requested in my letter dated May 29, 2007, the vanadium background levels established by the October 2006 Background Report may need to be revised.

#### Draft RFI Report for Area of Concern (AOC) A (former Torpedo Shop)

While EPA generally concurs with the conclusions and recommendation given in Section 6.0 of the Report, EPA requests that several items be clarified and/or modified, prior to our approving the Draft Phase I RFI report. Specifically, Section 6.1 (Conclusions) states that "...there has been no impact on the outside environment due to Navy activities at A.C. A." EPA notes that this statement is only applicable to soils, since no investigations were conducted on possible impacts to the groundwater.

Furthermore, Section 6.2 of the Report (Recommendations) states “There is some contamination present on the surfaces of the Torpedo Shop....” and goes on to state “Since the Torpedo Shop is not currently being used, no action is warranted at this time.” EPA does not fully concur. Since, the future usage of the torpedo shop site will likely change, EPA requests that the Navy submit, within 45 days of your receipt of this letter, a proposal to address any indicated potential risks either through remedial actions or access and/or usage restrictions. Please note that this is also required under Paragraph 25. F (Land Use, Institutional, and Engineering Controls) of the January 2007 RCRA Consent Order which states that “..for all SWMUs and/or AOCs where no Corrective Action Complete Determination has been made, Respondent shall ensure that acceptable Land Use Controls are established and maintained until either a Corrective Action Complete Determination Without Controls has been approved or a clean-up action based on unrestricted site usage has been completed...”

In addition, within 45 days of your receipt of this letter, please also submit written responses, and/or revised portions of the Report, to address the above comments and those given in the enclosed Technical Review, prepared for EPA by our consultant, TechLaw, Inc.

Closure Certification, Building 2009, and former Buildings 2009 A- D, and Proposed Land Use Controls, Building 2009 Area

EPA has reviewed the Land Use Control (LUC) proposal for the area of TRPH impacted soils adjacent to the Building 2009 ramp area, as described in the Mr. Darrel J. Molzan’s (Base Closure Manager, Navy BRAC PMO SE) letter of May 30, 2007. With submission of this LUC proposal, EPA has determined that the March 15, 2007 Closure Certification for Building 2009 and former Buildings 2009 A- D, signed by James E. Anderson (Director, Navy BRAC PMO SE) is now acceptable and complete.

As described in Mr. Molzan’s letter, upon conveyance of the parcel (containing the area of TRPH impacted soils adjacent to the Building 2009 ramp) to non-Navy entity, the Navy will impose the LUC provisions on the acquirer of that parcel via restrictions placed on the deed. In the future, failure to comply with the LUC requirements to maintain the integrity of the existing concrete cover, or the removal of that concrete cover, could result in EPA requiring the Navy and/or a non-Navy acquirer of that parcel, to implement corrective measures to address the TRPH contaminated soils adjacent to the Building 2009 ramp area.

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

Sincerely yours,



Timothy R. Gordon  
Project Coordinator  
Caribbean Section  
RCRA Programs Branch

Enclosure (3)

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

**TECHNICAL REVIEW OF THE NAVAL ACTIVITY PUERTO RICO  
PHASE I RCRA FACILITY INVESTIGATION REPORT FOR SWMU 16  
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  
Telephone No.  
EPA TOPO  
Telephone No.**

**002  
EP-W-07-018  
Matt Lary  
913-484-6706  
Timothy Gordon  
212-637-4167**

**May 22, 2007**

**TECHNICAL REVIEW OF THE NAVAL ACTIVITY PUERTO RICO  
PHASE I RCRA FACILITY INVESTIGATION REPORT FOR SWMU 16  
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 (RFI) Report for SWMU 16, Naval Activity Puerto Rico, Ceiba, Puerto Rico.

**GENERAL COMMENTS**

1. Various sections in the RFI Report mistakenly indicate that temporary monitoring well TW06 was installed and potentially screened in a 37-foot-deep soil boring. As indicated in RFI Report Section 3.3.4 and the Test Boring Records in Appendix A.3, soil boring 16SB02, which was located south of Building 1666, was logged to auger refusal, or 37 feet below ground surface (bgs). ~~Temporary monitoring well TW06, the sole monitoring well associated with SWMU 16, was installed at 16SB06, which was located north of Building 1666.~~ The Test Boring and Well Construction Record for 16SB06/TW06 indicates that 16SB06 was logged to 18 feet bgs, backfilled to 10 feet bgs, converted into temporary monitoring well TW06, and sampled later for explosives. Revise the applicable sections of the RFI Report to clearly disassociate TW06 from 16SB02.
2. The generation of investigation derived wastes (IDW) was not discussed in the RFI Report. According to the second paragraph in Section 3.8.2 of the approved Work Plan, two IDW samples were to be collected and analyzed during the investigation. Furthermore, the soil and water IDW were to be removed from the site and disposed of upon review of the IDW sample analytical data. Per the approved Work Plan, revise the RFI to include a description of IDW associated with the sampling efforts and provide waste manifests for the disposal of the generated IDW. If IDW was not collected and analyzed, provide the rationale behind deviating from the approved Work Plan.
3. The RFI does not discuss whether decontamination activities took place. According to Section 3.8.3 of the approved Work Plan the drill rig, including all applicable soil sampling equipment, will be decontaminated between each sampling location. If this work took place, revise the text to include a section on decontamination activities. If not, provide a rationale for deviating from the approved Work Plan.

**SPECIFIC COMMENTS**

1. **Section 4.2.1 Surface and Subsurface Soils:** The depth of the surface soils appears to deviate from the approved Work Plan. Table 3-1 in the approved Work Plan indicates that surface soil samples will be collected between 0.0 and 0.5 foot bgs. Section 4.2.1 of the RFI Report documents that surface soil samples 16SB01-00 through 16SB06-00 were

collected between 0.0 and 1.0 foot bgs. Revise the text to explain this apparent deviation from the approved Work Plan.

2. **Section 4.2.3 Water Levels:** The RFI Report does not clearly document how the groundwater was sampled at TW06. According to Section 3.3 of the approved Work Plan, groundwater was to be sampled by using the low flow sampling technique, as described in Appendix A. RFI Report Section 4.2.3 is not clear in its attempt to document flow rates, recharge rates, well volume, and overall groundwater sampling methodology. Revise the text in this section to document the development and sampling of this well, and to describe how this overall sampling effort was consistent with the low flow sampling technique described in the Work Plan.
3. **Section 4.3.5 Equipment Rinsates:** It is not clear if equipment rinsate samples were collected from analyte-free water. According to Section 3.7.2 of the approved Work Plan, equipment rinsate samples are to be collected from an analyte-free water rinse of the decontaminated sampling equipment. Revise the text to clarify the type of water used for the equipment rinsate samples.
4. **Table 5-1:** The source for the Selected Ecological Surface Soil Screening Value was not included in Table 5-1. Indicate in the footnote section of this table which source was used for the screening value.

**TECHNICAL REVIEW OF THE NAVAL ACTIVITY PUERTO RICO  
PHASE I RCRA FACILITY INVESTIGATION REPORT FOR SWMU 42  
DATED MARCH 23, 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  
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<b>EPA Task Order No.</b>	<b>002</b>
<b>Contract No.</b>	<b>EP-W-07-018</b>
<b>TechLaw TOM</b>	<b>Matt Lary</b>
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**May 22, 2007**

**TECHNICAL REVIEW OF THE NAVAL ACTIVITY PUERTO RICO  
PHASE I RCRA FACILITY INVESTIGATION REPORT FOR SWMU 42  
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 Phase I RCRA Facility Investigation Report for SWMU 42, Naval Activity Puerto Rico, Ceiba, Puerto Rico.

**GENERAL COMMENTS**

1. The RFI report and field notes are lacking some information related to sampling activities at SWMU 42. For example, the field notes attached to the report do not contain or confirm the following information: (1) the collection of sediment samples, (2) the decontamination of field equipment, (3) the collection of equipment rinsates, (4) the collection and testing of investigation derived waste, (4) type of field equipment used to collect surface soil and sediment samples, and (5) the criteria used to select the depths of surface and subsurface samples. Apparent deviations from the EPA-approved work plan, such as the method for collecting surface soil samples and the change in location of the sediment samples, were not documented in the text of the report or field notes. Revise the report to address the above-mentioned information.
2. The report does not include an explanation of how the groundwater samples were collected by using the low flow technique. In Section 3.3 of the approved work plan, it states that groundwater will be sampled by using a low flow technique. However, during the groundwater sampling event, the field notes indicated that the groundwater did not recharge quickly enough to (1) keep the wells from going dry during sampling, or (2) collect field parameters to verify stabilization before sampling. Revise the report to clarify how the groundwater samples were collected by using the low flow technique.
3. The generation of investigation derived wastes (IDW) was not discussed in the RFI report. According to the second paragraph in Section 3.8.2 of the approved Work Plan, two IDW samples were to be collected and analyzed during the investigation. Furthermore, the soil and water IDW were to be removed from the site and disposed of upon review of the IDW sample analytical data. Per the approved Work Plan, revise the RFI to include a description of IDW associated with the sampling efforts and provide waste manifests for the disposal of the generated IDW. If IDW was not collected and analyzed, provide text to support the rationale behind deviating from the approved Work Plan.
4. The RFI does not discuss whether decontamination activities took place. According to Section 3.8.3 of the approved Work Plan, the drill rig, including all applicable soil sampling equipment, was to be decontaminated between each sampling location. If this work took place, revise the text to include a section on decontamination activities. If not, provide a rationale for deviating from the approved Work Plan.

5. The “notes” section of Tables 5-1 through 5-4 does not contain an explanation for the use of highlights, bold, italics, and underlining. Clarify the meaning of the different use of the fonts in the “notes” section of each table.

## SPECIFIC COMMENTS

1. ***Section 4.1 Soil Boring Advancement and Temporary Well Installation:*** It is stated in the first paragraph that “one boring is located north of the lagoons, one to the south of the lagoons and one to the west of the lagoon.” According to the legend in Figure 4-1 the sampling locations are proposed sampling locations that vary slightly from the proposed locations shown in Figure 3-5 of the approved Work Plan. Revise Figure 4-1 to show the actual sampling locations, and clarify, if necessary, the difference between sampling locations on Figure 3-5 of the approved Work Plan and Figure 4-1 in the RFI Report.
2. ***Section 4.1 Soil Boring Advancement and Temporary Well Installation:*** According to the Field Log Book, temporary monitoring well 42SB03 was set on November 13, 2006 and surface soil samples were collected before the Geoprobe rig arrived for the day on November 14, 2006. It appears that surface soil samples were collected by hand, without a drill rig. The first paragraph of Section 4.1 indicates that surface and subsurface samples were collected with a Geoprobe rig. Furthermore, according to the third full paragraph on page 3-3 of the approved Work Plan, all soil borings will be advanced using a Geoprobe rig. Revise the text to indicate how surface soil samples were collected and, if applicable, provide the rationale behind deviating from the approved Work Plan for the sample collection.
3. ***Section 4.1 Soil Boring Advancement and Temporary Well Installation:*** The second paragraph in this section states that groundwater monitoring wells were installed with 10-foot long PVC screens. According to the second paragraph in Section 3.2 of the approved Work Plan, monitoring wells will consist of five-foot PVC screens. Provide the rationale behind deviating from the approved Work Plan.
4. ***Section 4.2.1 Surface and Subsurface Soils:*** The depth of the surface soils is inconsistently presented throughout the RFI Report. Table 5-1 indicates that surface soil samples were collected between 0.0 and 1.0 feet below ground surface (bgs). However, Table 3-2 in the approved Work Plan and the first paragraph in Section 4.2.1 indicates that surface soil samples will be and were collected between 0.0 and 0.5 feet bgs. Revise the text in Section 4.2.1 or revise Table 5-1 to indicate the correct unit of depth for surface soil samples. If necessary, provide text to support the rationale behind deviating from the approved Work Plan. Furthermore, clarify the rationale employed in deciding at what depth the surface soil samples were collected.
5. ***Section 4.2.2 Sediment:*** Neither the Field Log Book nor the text indicate the depth of the sediment samples, a description of the material, the sampling equipment and containers used for collection, the procedures that were followed for the collection of samples for volatile organic compound (VOC) analysis, and QC procedures employed for the sediment samples. Revise the text to include the aforementioned information.
6. ***Section 4.2.3 Groundwater:*** The RFI Report does not contain details regarding the installation and sampling of the three temporary groundwater monitoring wells. The text

should include a discussion of why the wells were terminated where they were, the process for selecting the screened intervals, the recharge rate at each temporary monitoring well, whether there was enough water volume to obtain field parameters at each of the three wells, description of the water samples, and the rationale behind collecting all QC samples from monitoring well 42TW01. Revise the text to address each of these concerns.

7. **Section 4.2.4 Water Levels:** The text in this section indicates that the slow recovery in well 42TW01 did not allow adequate time to stabilize. According to the Field Log Book, groundwater monitoring wells 42TW02 and 42TW03 were slow to recharge. There was no mention of a slow recharge rate at well 42TW01. Furthermore, the last paragraph in Section 3.3.4, indicates that wells 42TW02 and 42TW03 may reflect slow recharge due to the clay formations observed at these locations. Revise this section of the text to be consistent with Section 3.3.4 and the Field Log Book.
8. **Section 4.3.5 Equipment Rinsates:** It is not clear if equipment rinsate samples were collected from analyte-free water. According to Section 3.7.2 of the approved Work Plan, equipment rinsate samples were to be collected from an analyte-free water rinse of the decontaminated sampling equipment. Revise the text to clarify the type of water used for the equipment rinsate samples.
9. **Tables:** Tables 5-1 through 5-4 include the relevant screening concentrations for comparison to the detected contaminant levels. However, the source(s) of these values were not provided. Indicate in the text and footnotes which sources were used for the screening values.

**TECHNICAL REVIEW OF THE NAVAL ACTIVITY PUERTO RICO  
PHASE I RCRA FACILITY INVESTIGATION REPORT FOR AOC A  
DATED APRIL 25, 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**

**Telephone No.**

**EPA TOPO**

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**002**

**EP-W-07-018**

**Matt Lary**

**913-484-6706**

**Timothy Gordon**

**212-637-4167**

**June 5, 2007**

**TECHNICAL REVIEW OF THE NAVAL ACTIVITY PUERTO RICO  
PHASE I RCRA FACILITY INVESTIGATION REPORT FOR AOC A  
DATED APRIL 25, 2007**

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

The following comments were generated based on review of the April 25, 2007 Phase I RCRA Facility Investigation Report for AOC A, Naval Activity Puerto Rico, Ceiba, Puerto Rico. The document was reviewed for conformance with the requirements of the September 15, 2006 Final RCRA Facility Investigation Work Plan for SWMUs 16, 27, 28, 29, and 42, and AOC A (Work Plan).

**GENERAL COMMENTS**

1. No comparison of contaminant levels to applicable regulatory levels, or a discussion of potential risks to human health is included in the RFI Report for the wipe and concrete chip sample data. Since the recommendation for AOC A is no further action, a discussion of the contaminant levels relative to applicable regulatory levels and the potential risk to human health is warranted. Revise the RFI Report to include a comparison of the wipe sample and concrete chip sample data to applicable regulatory levels and an evaluation of the potential risks to human health.
2. The generation of investigation derived wastes (IDW) was not discussed in the RFI report. According to the second paragraph in Section 3.8.2 of the approved Work Plan, two IDW samples were to be collected and analyzed during the investigation. Furthermore, the soil and water IDW were to be removed from the site and disposed of upon review of the IDW sample analytical data. Per the approved Work Plan, revise the RFI to include a description of IDW associated with the sampling efforts and provide waste manifests for the disposal of the generated IDW. If IDW was not collected and analyzed, provide text to support the rationale behind deviating from the approved Work Plan.
3. The RFI does not discuss whether decontamination activities took place. According to Section 3.8.3 of the approved Work Plan, the drill rig, including all applicable sampling equipment, will be decontaminated between each sampling location. If this work took place, revise the text to include a section on decontamination activities. If not, provide a rationale for deviating from the approved Work Plan.

**SPECIFIC COMMENTS**

1. **Section 2.2 AOC A Description History:** Section 2.2 does not document the historical use of the Torpedo Shop. The report indicates only that the Torpedo Shop is a metal framed building with metal siding and concrete floors. Section 2.2 should be revised to

summarize historical manufacturing activities and identify chemical compounds formerly managed at the Torpedo Shop.

2. **Section 4.2.1 Subsurface Soils:** Section 4.2.1 does not explain the rationale for (1) collecting only one sample per boring, and (2) selecting the depth intervals of the subsurface samples. Per the approved Work Plan, two subsurface soil samples were to be collected from each boring. As indicated in the report, only one sample from each boring was collected. Also, although the Work Plan indicates that the actual sample depth will be determined in the field, the report should document the basis for selecting the depth intervals of the samples. Revise Section 4.2.1 to document the rationale for reducing the number of subsurface samples, and for selecting specific sampling intervals for laboratory analysis.
3. **Section 4.2.2 Concrete Chip Samples:** Section 4.2.2 does not adequately summarize sampling activities related to the collection of concrete chip samples. This section indicates only that six samples were collected by using a clean hammer or chisel or other similar means. Section 4.2.2 does not specifically identify the actual sampling tools used to collect the concrete chip samples. Also, although the Work Plan indicates in Section 3.6 that the sampling locations are subject to change based on field observations, the report should document the rationale for selecting the actual locations, particularly why one sample was not collected in the Machinery Equipment Room. Field notes associated with the collection of the concrete chip samples were not included in the RFI Report. Revise Section 4.2.2 to document the actual sampling methodology used to collect the samples, and include the rationale for the field selection of sampling locations. Add the field notes associated with this effort to the RFI Report.
4. **Section 4.2.2 Concrete Chip Samples:** As indicated in Section 4.2.2, some fuel-related contamination appears to be present in the Torpedo Shop. The RFI Report presents the results of the concrete chip sampling event but does not evaluate whether the chip samples adequately characterize contamination within and below the concrete surface. No comparison to applicable standards has been included in the document, and there is no discussion of the significance of the fuel contamination present in the chip samples or the potential risks to human health, if any. The conclusions section merely states that the constituents detected may be associated with the epoxy coating present on the shop floor. Revise the report to compare the results of chip samples to applicable regulatory levels and discuss the potential risks to human health, if any. In addition, because the first one-half inch of concrete is contaminated, the report should evaluate whether additional sampling of deeper concrete is warranted. This evaluation should include a discussion of whether samples should be collected in the Machinery Equipment Room.
5. **Section 4.2.3 Wipe Samples:** Section 4.2.3 does not adequately summarize sampling activities related to the collection of wipe samples. The text does not include a description of the material used for the wipe samples, the containers used to store the wipe samples, and the procedures that were followed for the collection of samples. Field notes associated with the wipe samples were not included in the RFI Report. Although the Work Plan indicates in Section 3.5 that the sampling locations are subject to change based on field observations, the RFI Report should document the rationale for selecting

the actual locations, particularly why one sample was not collected in the Machinery Equipment Room. Revise Section 4.2.3 to document the actual sampling methodology used to collect the wipe samples, and include the rationale for the field selection of the sampling locations. Add the field notes associated with this effort to the RFI Report.

6. **Section 4.3.2 Trip Blanks:** Section 4.3.2 does not appear to accurately associate the trip blanks to the samples. Section 4.3.2 indicates that AOCATB01 and AOCATB02 were shipped with the wipe and subsurface samples, respectively. According to the Chain of Custody (COC), AOCATB01 was shipped with the subsurface samples, and AOCTB02 was shipped with the concrete chip and wipe samples. Section 4.3.2 should be revised to correct this apparent discrepancy and clearly document which trip blank, if any, is associated with the concrete chip samples.
7. **Section 4.3.5 Equipment Rinsates:** The Equipment Rinsate (ER) samples associated with sampling activities at AOC A were not collected on the same day as their associated sample matrices. As documented in Section 4.3.5 and the COCs in Appendix A, the following table summarizes the ER samples associated with AOC A:

ER Sample ID	Sampling Tool	ER Collection Date	Sample Matrix	Sample Date
2006ER01	Spoon	11/13/06	Subsurface soil	11/16/06
2006ER02	Macro-Core Liner	11/14/06	Subsurface soil	11/16/06
2006ER05	Chisel	11/17/06	Concrete	11/18/06

As shown above, ER sample 2006ER01 was collected three days before the subsurface soil samples were collected at AOC A. Section 3.4.1 of EPA's Test Methods for Evaluating Solid Waste, Physical/Chemical Methods Manual (SW-846) states that one equipment rinsate sample should be collected per day for each matrix being sampled. An EPA Region 3 fact sheet on quality control blanks dated November 15, 2001 (available at: [www.epa.gov/region3/esc/QA/Blanks\\_QC\\_Tools.pdf](http://www.epa.gov/region3/esc/QA/Blanks_QC_Tools.pdf)) further stipulates collection of one equipment rinsate sample per day per matrix or one for every 20 samples per matrix, whichever is more frequent. Revise Section 4.3.5 to include an explanation to justify the relevance of the ER samples reportedly associated with AOC A. Provide an explanation as to how they could be considered relevant (particularly the VOC results), even though they were collected up to three days before their associated matrix samples were collected. Also clarify whether the equipment rinsate samples were collected from an analyte-free water rinse, as stated in Section 3.7.2 of the approved RFI Work Plan.

8. **Section 5.5.2 STL Savannah SDG 22098-2:** Based on all available data, it is not clear whether the sampling results for chip samples AOCACC02, AOCACC06, and AOCACC05 should be qualified strictly based on the results of equipment rinsate (ER) sample 2006ER05. In the last bullet on Page 5-4 of the RFI Report, it states that equipment blank concentrations in sample 2006ER05 resulted in qualifying the detected concentrations of toluene in samples AOCACC02 and AOCACC06 as estimated values, while the detected concentration in sample AOCACC05 was rejected. As documented in the previous Specific Comment, ER sample 2006ER05 was not collected on the same day

as the above-mentioned samples. If toluene detection was strictly associated with the chisel, the toluene may have volatilized before sampling activities began the following day. Because the rinsate water may have been the source of the toluene detection, the sampling data for the above-mentioned chip samples may not need to be qualified. Finally, because toluene was detected in all 17 wipe samples and most of the chip samples, it may not be reasonable to qualify the detected concentrations of toluene in samples AOCACC02, AOCACC06, and AOCACC05. Section 5.2.2 should be revised to evaluate all environmental data and conditions as part of the process for qualifying the sampling data.

9. **Tables:** Table 5-1 includes the relevant screening concentrations for comparison to the detected contaminant levels. However, it is unclear of the source in which these values were found. Indicate in the text and footnotes which sources were used for the screening values. Furthermore, the “notes” section of this table does not contain an explanation for the use of highlights, bold, italics, and underlining. Clarify the meaning of the different use of the fonts in the “notes” section of each table.
10. **Tables:** The “notes” section of Table 5-2 does not contain an explanation for the use of the letter “R.” Clarify the meaning of this letter in the “notes” section of the table. Also, as indicated in the above Specific Comments, equipment blank concentrations in sample 2006ER05 resulted in qualifying the detected concentrations of toluene in samples AOCACC02 and AOCACC06 as estimated values, while the detected concentration in sample AOCACC05 was rejected. Table 5-2 indicates that toluene was undetected in samples AOCACC02 and AOCACC06. Revise Table 5-2 to resolve this apparent discrepancy.
11. **Tables:** In Table 5-4, the date associated with ER sample 2006ER02 is November 15, 2006. According to the COC, the sampling date for sample 2006ER02 is November 14, 2006. Table 5-4 should be revised to resolve this apparent discrepancy.
12. **Figures:** Revise the “notes” section in Figure 4-2 to read “were determined in the field” not “will be determined in the field”.
13. **Logbook:** It is not clear why equipment rinsate sample ER01 was not included on the COC. According to Page 38 of the Logbook, equipment rinsate sample ER01, collected from the stainless steel spoon, was collected on November 16, 2006 at 0645. The COC located in Appendix A.2 does not indicate that this sample was submitted to STL. Revise the RFI Report to explain why sample ER01 was not included on the COC.