



Michael Baker Jr., Inc.
A Unit of Michael Baker Corporation

Airside Business Park
100 Airside Drive
Moon Township, PA 15108

November 24, 2010

412-269-6300
FAX 412-375-3995

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

Attn: Mr. Adolph Everett, P.E.
Chief, RCRA Programs Branch

Re: Contract N62470-10-D-3000
IQC for A/E Services for Multi-Media
Environmental Compliance Engineering Support
Delivery Order (DO) JM01
U.S. Naval Activity Puerto Rico (NAPR)
EPA I.D. No. PR2170027203
Final Phase I RCRA Facility Investigation for SWMU 57

Dear Mr. Everett:

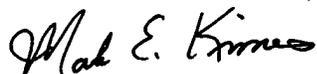
Michael Baker Jr., Inc. (Baker), on behalf of the Navy, is pleased to provide you with one hard copy of the replacement pages for the Draft Phase I RCRA Facility Investigation for SWMU 57, Naval Activity Puerto Rico for your review and approval. These replacement pages make up the Final Phase I RCRA Facility Investigation for SWMU 57. Directions for inserting the replacement pages into the Draft Phase I RCRA Facility Investigation for SWMU 57 are provided for your use. Also included with the copy of the replacement pages is one electronic copy provided on CD of the Final Phase I RCRA Facility Investigation for SWMU 57.

This report is being submitted in accordance with EPA comments dated October 7, 2010. The Navy's responses to these comments are attached for your review. Additional distribution has been made as indicated below.

If you have questions regarding this submittal, please contact Mr. Mark Davidson at (843) 743-2124.

Sincerely,

MICHAEL BAKER JR., INC.



Mark E. Kimes, P.E.
Activity Coordinator

MEK
Attachments

cc: Ms. Debra Evans-Ripley, BRAC PMO SE (letter only)
Mr. David Criswell, BRAC PMO SE (letter only)
Mr. Mark E. Davidson, BRAC PMO SE (1 hard copy and 1 CD)
Mr. Pedro Ruiz, NAPR (1 CD)
Mr. Tim Gordon, US EPA Region II (1 hard copy and 1 CD)
Mr. Carl Soderberg, US EPA Caribbean Office (1 hard copy and 1 CD)
Ms. Bonnie Capito, NAVFAC Atlantic – Code EV42 (1 hard copy for Administrative Record)
Ms. Gloria Toro, PR EQB (1 hard copy and 1 CD)
Ms. Wilmarie Rivera, PR EQB (1 CD)
Mr. Felix Lopez, US F&WS (1CD)
Mr. Brenda Smith, TechLaw, Inc. (1 CD)

**NAVY RESPONSES TO EPA AND PREQB COMMENTS DATED OCTOBER 7, 2010
ON THE DRAFT PHASE I RCRA FACILITY INVESTIGATION REPORT
SWUM 57 – POL DRUM STORAGE AREA
DATED AUGUST 13, 2010**

EPA COMMENTS

GENERAL COMMENTS

EPA General Comment 1: *It is noted that several unforeseen circumstances resulted in sample mishandling by the laboratory courier or by the laboratory itself. In the future, additional steps should be taken to maintain sample integrity such as shipping samples as soon as practical after sample collection and following all courier instructions to ensure prompt sample receipt by the laboratory. Additionally, if laboratory mistakes are commonly noted, a new laboratory should be considered in future investigations.*

Navy Response to EPA General Comment 1: Considering the logistics and inherent risk of sample bottle breakage during sample delivery to the mainland laboratory; the breakage associated with the SWMU 57 investigation is not excessive (all analyses were performed). We have a sample packaging and shipping program in place and endeavor to properly package the samples to minimize breakage.

EPA General Comment 2: *SWMU 57 is described as a Petroleum, Oils, and Lubricant (POL) Drum Storage Area in the Report; however during the previous investigations described in Section 2.3, total petroleum hydrocarbons (TPH) were not analyzed. Page 2-3 states “From the detections of fuel ... soil at the site had been impacted by previous activities.” Revise Section 2.3 Previous Investigations to include a description of all the analyses performed or the basis for the reference to fuel detections at the site.*

Navy Response to EPA General Comment 2: The reference to fuel will be removed. The term fuel was used in the Phase II ECP Report likely due to the detections of ethylbenzene and xylene.

EPA General Comment 3: *Based on the information presented in Section 6.7.2 and Appendix E, it appears that only the parent samples were qualified for metals matrix spike/matrix spike duplicate (MS/MSD) exceedances, instead of the entire sample delivery group (SDG). Since MS/MSD samples are subject to a batch quality control (QC), all samples in the associated SDG should be qualified. Revise the Report to address this discrepancy.*

Navy Response to EPA General Comment 3: All associated samples were qualified as noted based on MS/MSD recovery issues. The DVR report states this on pages 10 & 14. No changes were required.

EPA General Comment 4: *A data quality assessment (DQA) has not been included in the Report. The DQA should discuss whether the data collected was of sufficient quality to meet to data quality objectives (DQOs) for the project. In particular, the DQA should discuss precision, accuracy, representativeness, completeness, comparability, and sensitivity (PARCCS) and should examine the data for any trends or biases. Additionally, the DQA should discuss whether rejected data (e.g., sample 57SB02-00, etc.) has created potential data gaps and how these data gaps will be mitigated. Revise the Report to provide a detailed DQA as described above.*

Navy Response to EPA General Comment 4: All data from the laboratory was certified by a Puerto Rican

Chemist and laboratory data was validated by a third party to ensure data usability. Only usable data was included in the evaluation and the conclusions and recommendations sections of the report. Data validation reports are included as an appendix to the Full RFI report and discuss:

- Overall Evaluation of the Data/Potential Usability Issues
- Data Completeness
- Sample Condition
- Technical Holding Times
- GC/MS Tuning and GC Performance
- Initial and Continuing Calibrations
- ICSA/ICSAB Standards
- CRDL Standards
- Method and QC Blanks
- Surrogate and Matrix Spike Recoveries
- Matrix Duplicate RPDs
- Serial dilutions
- Field Duplicates
- Identification/Quantitation
- Reporting Limits
- TICs

SPECIFIC COMMENTS

EPA Specific Comment 1: *Section 3.0, Physical Characteristics of Study Area, Pages 3-1 through 3-5: Regional information is presented throughout Section 3.0; however, specific information relating to SWMU 57 is not presented in these sections. Revise the following to include information specific to SWMU 57:*

- *Section 3.2, Page 3-1 and 3-2– Describe the elevation and topography at SWMU 57*
- *Section 3.3.1, Page 3-2 and 3-3 – Describe the soils specifically found at SWMU 57*
- *Section 3.3.2, Page 3-3 – Based on available information, describe the geology in the SWMU 57 area*
- *Section 3.3.3, Page 3-3 and 3-4 – Describe the hydrogeology near SWMU 57 including the nearest stream or other surficial water features to the area*
- *Section 3.3.4, Page 3-4 and 3-5 – Include SWMU 57 in the regional geology description and describe the type of residuum found at SWMU 57*

Navy Response to EPA Specific Comment 1: This information is provided in Section 5.0 which includes current conditions, geology, and hydrogeology subsections. The SWMU 57 RFI Report format is a typical and previously approved format for RFI Reports.

EPA Specific Comment 2: *Section 4.0, Phase I RCRA Facility Investigation Activities, Page 4-1: This section describes four concrete wipe samples and five newly installed permanent monitoring wells while Figures 4-1 and 4-2 include three concrete wipe sample locations and does not include the five newly installed permanent monitoring wells. If a boring location is also a monitoring well location, this should be noted in the figure legend. Revise the text, the figures, and/or the figure legends to reflect the actual number of samples taken and their locations.*

Navy Response to EPA Specific Comment 2: Concrete wipe sample 57WS04 has been added to Figures 4-1, 4-2 and 6-1 through 6-5. These figures do show the locations of the five newly installed permanent

monitoring wells and two soil borings (i.e., unique symbols on the map and properly identified in the legend). The symbols and legend of Figures 5-1 and 5-4 will be revised similar to Figures 4-1, 4-2 and 6-1 through 6-5

EPA Specific Comment 3: *Section 4.2, Subsurface Soil Sampling, Page 4-2:* This section describes relative locations of the subsurface soil sampling (upgradient, sidegradient, and downgradient). The regional and local topography and groundwater flow should be presented in Section 3.0 in order to establish the relative elevation locations for the sampling. Revise Section 3.0 and Section 4.2 to include descriptions of the local topography and groundwater flow.

Navy Response to EPA Specific Comment 3: See Navy Response to EPA Specific Comment 1.

EPA Specific Comment 4: *Section 4.2, Subsurface Soil Sampling, Bullet 1, Page 4-2:* The sampling location 57SB01 is described in the text as “moved from its proposed up and sidegradient location northeast of the concrete pad to a downgradient location west of the pad.” On Figures 4-1 and 4-2, the sampling location appears northwest of the pad. Revise the figures and/or the text to accurately describe/show the sampling location.

Navy Response to EPA Specific Comment 4: The text has been revised accordingly.

EPA Specific Comment 5: *Section 4.3, Monitoring Well Installation and Groundwater Sampling, Page 4-4:* This section appears to have some internal inconsistencies. The third paragraph on Page 4-4 states “The groundwater was sampled using a decontaminated bladder pump and low-flow sampling techniques at each well with the exception of well 57GW02 due to its insufficient groundwater yield.” The fourth paragraph on Page 4-4 states “Six groundwater monitoring wells ... were sampled and analyzed...” It is unclear whether or not 57GW02 was sampled and by what methods and if the total number of monitoring wells sampled is six or fewer. Revise this section to clarify whether or not well 57GW02 was sampled and the methods used.

Navy Response to EPA Specific Comment 5: The text was revised to clarify the collection of sample 57GW02 including the following: An attempt to sample well 57SB02 occurred on January 31, 2010; however, due to insufficient groundwater yield the required sample volume was not available. As per USEPA low flow purging and sampling procedures for wells with insufficient yield, the remaining required volume of groundwater was collected on February 1, 2010 once the well had recovered sufficiently to allow for groundwater collection (USEPA, 1998).

EPA Specific Comment 6: *Section 4.6, Concrete Chip Sampling, Page 4-5:* It is unclear why the concrete chip samples were not taken where historical information such as aerial photographs indicate stained areas. Current conditions may not be representative of historical conditions and it should also be noted that PCBs do not necessarily leave stains so visual observations of chipped surfaces may not be indicative of contamination. Evaluate and discuss the relevance of the sample locations based on a comparison of current and historical observations.

Navy Response to EPA Specific Comment 6: The work plan stated that “if the pad is observed to be in poor condition during the inspection, up to four concrete chip samples will be collected from the concrete pad. The sample locations will be determined at the discretion of the field team based on observations of degradation of concrete.” Although significant physical degradation of the concrete was not evident, minor pits and surface cracks were observed on the surface of the pad. Since significant degradation and/or staining were not evident, the four concrete chip sample locations were spatially distributed on the pad considering the storage possibilities over the entire period of reported use; not specific use on the two dates of the aerial photos or post operation staging/storing of non-POL materials.

The text has been revised to clarify the spatial distribution of the chip sample location.

EPA Specific Comment 7: *Section 5.1, Current Conditions, Page 5-1:* This section discusses the general topography of the area, but does not provide the elevation or range of elevations at the site. Revise this section to include elevations or other topographic information specific to SWMU 57.

Navy Response to EPA Specific Comment 7: The text has been revised accordingly.

EPA Specific Comment 8: *Section 5.1, Current Conditions, Page 5-1:* This section notes that one earthen drainage feature was identified at SWMU 57, which was “approximately 140 linear feet and conveys runoff around the northeastern portion of the concrete pad, but terminates before reaching the access road” and was dry at the time of the investigation. No samples appear to have been taken in this area. Revise this section to clarify why additional samples were not taken in this area and revise the recommendations in Section 7.2 to include sampling in this area.

Navy Response to EPA Specific Comment 8: The earthen drainage feature traverses an area upgradient of the concrete pad; releases to the concrete pad or load dock cannot migrate to the earthen drainage feature due to its upgradient location.

EPA Specific Comment 9: *Section 5.2.2, Hydrogeology, Page 5-2:* This section states that “well 57SB02 revealed a very low yield and recharge rate (i.e. the well went dry during development and the yield was insufficient to be sampled using low flow procedures).” It appears that a groundwater sample was collected (i.e., 57GW02). It is unclear what procedures were used to collect the groundwater sample since low flow procedures were not used based on the low groundwater volume. Revise this section to clarify what methods were used and how the sample was collected.

Navy Response to EPA Specific Comment 9: See Navy Response to EPA Specific Comment 5. The text has been revised to reference Section 4.3 Monitoring Well Installation and Groundwater Sampling.

EPA Specific Comment 10: *Appendix E, COMPUCHEM SDG 1001159, Page 1:* This page indicates that metals were analyzed by Method 6020A. However, Method 6020B is the most current version of this method. Revise the data validation report (DVR) to correct this discrepancy.

Navy Response to EPA Specific Comment 10: Page 1 of the DVR indicates that the method for the metals is Method 6020B. However, this is a typographical error. The method should have been 6010B. Correction has been made to the report.

EPA Specific Comment 11: *Appendix E, COMPUCHEM SDG 1001159, Page 3:* The last paragraph on this page indicates that the re-extracted diesel range organics (DRO) sample was rejected in favor of the original extraction. However, neither this page nor page 11 of the DVR indicates why the original extraction was more favorable. Revise the DVR to provide this information.

Navy Response to EPA Specific Comment 11: Page 3 of the DVR indicates that the sample was re-extracted outside of the holding time. This is the reason that the RE sample was rejected. No changes were required.

EPA Specific Comment 12: *Appendix E, COMPUCHEM SDG 1001159, Page 8:* The first table on this page indicates the action level for di-n-butylphthalate is “2X RL” but the concentration reported was 20J ug/kg, while the reporting limit (RL) was 170 ug/kg. Therefore, it appears that the action level listed should be “RL.” Revise the DVR to address this discrepancy.

Navy Response to EPA Specific Comment 12: Corrections have been made to the report, no change in qualifications.

EPA Specific Comment 13: *Appendix E, COMPUCHEM SDG 1001159, Page 9:* There are two percent recoveries (%R) listed in the surrogate table on this page that appear to be within the QC limits (e.g., phenol in sample 57SB03-00 had a 100%R and terphenyl-d14 in sample 57SB03-01 had a 125%R). Since these recovery values were at the upper end of the acceptable QC limits, it is unclear why these samples were qualified. Revise the DVR to clarify why these samples were qualified (e.g., rounding down due to significant figures).

Navy Response to EPA Specific Comment 13: Corrections have been made to the report.

EPA Specific Comment 14: *Appendix E, COMPUCHEM SDG 1001159, Page 9:* The SVOC surrogate table indicates base/neutrals were qualified J in two samples due to surrogate exceedances. However, it appears that acid SVOC should also be qualified due to 2-fluorophenol exceedances. Revise the DVR to clarify this apparent discrepancy.

Navy Response to EPA Specific Comment 14: Corrections have been made to the report.

EPA Specific Comment 15: *Appendix E, COMPUCHEM SDG 1001159, Pages 9 and 10:* Both the laboratory control sample (LCS) and MS/MSD exhibited zero percent recoveries for p-phenylenediamine. Based on this information, it appears that the laboratory is unable to effectively recover this compound. The Report should discuss this issue and its impact upon data usability. Revise the Report to provide this discussion in the DQA section.

Navy Response to EPA Specific Comment 15: This issue is discussed in the DVR and appropriate qualifications were made (see pages 9-10 & 14). Refer to the Navy response to EPA General Comment 4 regarding a DQA.

EPA Specific Comment 16: *Appendix E, COMPUCHEM SDG 1001159, Page 10:* This section indicates that the MS/MSD for antimony and selenium were less than the acceptance limits. However, the DVR does not include an evaluation of the post digestion spike (PDS) results for these analytes. Revise the DVR to evaluate the PDS, and to ensure these analytes are qualified appropriately in all associated samples for this SDG.

Navy Response to EPA Specific Comment 16: The PDS is not discussed in the DVR because the Region II validation guidelines do not contain any reference to the PDS or any guidance on how to handle the recoveries of this QC spike. Comments regarding the PDS results would not change the flagging action. No changes were required.

EPA Specific Comment 17: *Appendix E, COMPUCHEM SDG 1001159, Page 10:* The serial dilution discussion on this page indicates that there was a non-compliant percent difference (%D) for cobalt. However, the table indicates that lead was qualified instead of cobalt. Revise the DVR to clarify this apparent discrepancy.

Navy Response to EPA Specific Comment 17: This typographical error has been corrected.

EPA Specific Comment 18: *Appendix E, COMPUCHEM SDG 1001159, Page 11:* This discussion of PCB field duplicates indicates that an outlier was observed. However, the extent of the exceedance was not presented. Revise the DVR to present the field duplicate relative percent difference for PCB Aroclor 1260.

Navy Response to EPA Specific Comment 18: The RPD value can be found in the validation worksheets portion of the DVR and the RPD was added to the report text based on this request.

MINOR COMMENTS

EPA Minor Comment 1: *Appendix A, Summary of Analytical Results from Phase II ECP: The tables in Appendix A are labeled B-1, B-2. Etc. Revise the table numbering system to begin with A, per Appendix A, instead of B.*

Navy Response to EPA Minor Comment 1: These tables were designated B-1 through B-6 in the referenced Phase I/II ECP Report. We recommend maintaining the same table designations as in the original, referenced document. Consequently, the table designations were not changed for this report. Section 2.3 describes the Appendix A reference and table designations and has been edited to avoid any confusion.

EPA Minor Comment 2: *Appendix E, COMPUCHEM SDG 1001159, Page 9: The text under the surrogates section indicates the samples listed in the table exhibited low surrogate recoveries. Based on the information in the table, it appears that the samples exhibited high surrogate recoveries. Revise the DVR to address this apparent discrepancy.*

Navy Response to EPA Minor Comment 2: Correction has been made to the report.

PREQB COMMENTS

PREQB Comment 1: *Page 4-1, Section 4.0: Please revise the text reference for sample locations from Figure 4-1 to Figure 4-2.*

Navy Response to PREQB Comment 1: The text has been revised accordingly.

PREQB Comment 2: *Page 4-5, Section 4.5: The concrete wipe samples are identified as 57SWXX. Figure 4-2 identifies these samples as 57WSXX. Please revise the text or Figure for consistency.*

Navy Response to PREQB Comment 1: The text has been revised accordingly.

PREQB Comment 3: *Page 6-1, Sections 6.1.1 and 6.1.1.2: PREQB Water Quality Standards Regulations (2010) are also applicable, relevant and appropriate requirements for waters of Puerto Rico, Please add this reference to this section and review standards to ensure that the most stringent of the federal or state value for a particular chemical is used.*

Navy Response to PREQB Comment 1: Section 6.1.1.3 has been added to include the Puerto Rico's Water Quality Standards Regulations and Table 6-3 has been revised. In addition, the standards have been reviewed to ensure that the most stringent values are used.

PREQB Comment 4: *Page 6-3, Section 6.1.2.2:*

- a. *The ground water sampling results are compared to saltwater water quality criteria. This approach appears reasonable based on the presence of the Los Machos mangrove forest near SWMU 57. However, in order to provide transparency to the ecological data evaluation, please provide a brief explanation that presents the rationale for using saltwater criteria rather than freshwater criteria for this comparison.*

Navy Response to PREQB Comment 4a: The first sentence of Section 6.1.2.2 has been revised as follows: Chronic saltwater National Ambient Water Quality Criteria (NAWQC) (USEPA, 2009b) were preferentially used as groundwater screening values since the receiving water body for SWMU 57 groundwater is marine

(i.e., Los Machos Mangrove Forest).

- b. *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.*

Navy Response to PREQB Comment 4b: Section 6.1.1.3 has been added and Table 6-3 revised to include the Puerto Rico's Water Quality Standards Regulations.

PREQB Comment 5: *Page 6-6, Section 6.2, Paragraph 4: The text states that GRO was detected in several samples at low estimated concentrations. However, as per Table 6-2, GRO was not detected in any of the surface soil samples, Please clarify or revise the text accordingly.*

Navy Response to PREQB Comment 5: GRO was not detected in any of the surface soil samples as indicated on Table 6-1. The text has been revised accordingly. Table 6-2 lists subsurface soil results and comparison criteria.

PREQB Comment 6: *Page 6-6, Section 6.2, Paragraph 6:*

- a. *The text states that chromium exceeded ecological surface soil screening values at eight locations. However, as per Table 6-2, chromium exceeded the screening values at six locations (although this affected eight samples due to the inclusion of field duplicates), Please revise the text accordingly.*

Navy Response to PREQB Comment 6a: The text has been revised to state that six sample locations exceeded the ecological surface soil screening value for chromium as indicated on Table 6-1. Table 6-2 lists subsurface soil results and comparison criteria.

- b. *The text states that chromium only exceeded the background screening level in sample 57SB08. However, as per Table 6-2 this should state 57SB04 and not 57SB08. Please revise the text accordingly.*

Navy Response to PREQB Comment 6b: The text has been revised accordingly as indicated on Table 6-1. Table 6-2 lists subsurface soil results and comparison criteria.

- c. *The text states that cobalt exceeded the regional screening level for industrial soil at six of the twelve locations. However, as per Table 6-2, cobalt exceeded this screening level at five of the twelve locations (although this affected six samples due to the inclusion of a field duplicate). Please revise the text accordingly.*

Navy Response to PREQB Comment 6c: The text is correct as indicated on Table 6-1; six exceedances of twelve primary sample locations (57SB02, 57SB04, 57SB07, 57SB08, 57SB09, and 57SB11). Table 6-2 lists subsurface soil results and comparison criteria.

PREQB Comment 7: *Page 6-7, Section 6.2, Paragraph 1 and Page 6-8, Section 6.3, Paragraph 1: Please discuss in the text whether the rejection of selenium in seven of the fourteen samples affects the achievement of project objectives.*

Navy Response to PREQB Comment 7: The rejection of selenium in surface and subsurface soil does

constitute a data gap. However, this data gap does not impact the overall conclusions and recommendations of the Phase I RFI Report that metals contamination was identified in surface and subsurface soil requiring further characterization through a Full RFI. Sections 6.2 and 6.3 will be revised to identify the selenium data gap and Sections 7.1 and 7.2 to include selenium in the conclusions and recommendations.

PREQB Comment 8: Page 6-7, Section 6.3, Paragraph 5:

- a. *The text states that DRO was detected in twelve of the fourteen samples. Please revise the text to state DRO was detected in twelve of the fifteen samples or eleven of the 14 locations.*

Navy Response to PREQB Comment 8a: The text has been revised to eleven of 14 samples.

- b. *The text states that GRO was detected in sample 57SB07-01 at a low estimated concentration. However; as per Table 6-2, GRO was not detected in any of the shallow subsurface soil samples. Please clarify or revise the text accordingly.*

Navy Response to PREQB Comment 8b: The text has been revised to state that GRO was not detected in any of the subsurface soil samples.

PREQB Comment 9: Page 6-9, Section 6.4, Dissolved Inorganics, Paragraph 2:

- a. *The text states that dissolved lead exceeded the ecological groundwater screening criteria and background value in sample 57GW05. However, as per Table 6-3, dissolved lead was below the background value in this sample. Please clarify or revise the text accordingly.*

Navy Response to PREQB Comment 9a: Dissolved lead did exceed the ecological groundwater screening criteria and background value in sample 57GW05. See Navy Response to PREQB Comment 20 and revised Table 6-3. Note also that reported concentrations for dissolved silver did not exceed any of the comparison criteria and the text has been revised accordingly.

- b. *The text states that dissolved mercury exceeded background at four locations. However, as per Table 6-3, dissolved mercury was below the background value in all samples. Please clarify or revise the text accordingly.*

Navy Response to PREQB Comment 9b: Dissolved mercury did exceed background and one or more of the groundwater screening criteria at four locations. See Navy Response to PREQB Comment 20 and revised Table 6-3.

PREQB Comment 10: Page 6-10, Section 6.4, Total Inorganics, Paragraph 2: *The text states that total mercury exceeded the background value at four locations. However, as per Table 6-3, total mercury was below the background value in all samples. Please clarify or revise the text accordingly.*

Navy Response to PREQB Comment 10: Total mercury did exceed background and one or more of the groundwater screening criteria at four locations. See Navy Response to PREQB Comment 20 and revised Table 6-3. Note also that reported concentrations for total silver did not exceed any of the comparison criteria and the text has been revised accordingly.

PREQB Comment 11: Page 6-11, Section 6.6, Paragraph 3: *Please revise the list of detected metals to nine metals instead of eight and include zinc, as per Table 6-5.*

Navy Response to PREQB Comment 11: The text has been revised accordingly to the updated Table 6-3 in which a total of seven metals exceeded one or more of the criteria.

PREQB Comment 12: Page 6-11, Section 6.7.1, Paragraph 2: Please revise the summary of detections in field blank FB02 to three SVOCs instead of two and include benzyl alcohol, as per Table 6-6

Navy Response to PREQB Comment 12: The text has been revised accordingly.

PREQB Comment 13: Page 6-11, Section 6.7.1, Paragraph 4:

- a. Please revise the summary of detections in the eight equipment rinsate samples to seven VOCs instead of ten and remove bromodichloromethane, bromoform, and dibromochloromethane from the list, as per Table 6-6.

Navy Response to PREQB Comment 13a: The text has been revised accordingly.

- b. Please revise the summary of detections in the eight equipment rinsate samples to four metals instead of five and remove beryllium from the list, as per Table 6-6.

Navy Response to PREQB Comment 13b: The text has been revised accordingly.

PREQB Comment 14: Page 7-1, Section 7.1, Surface Soil: As per Table 6-1, vanadium did not exceed background in any of the surface soil samples; however, vanadium is listed as a metal that exceeded one or more of the screening criteria and background. Please clarify or revise the table accordingly.

Navy Response to PREQB Comment 14: The text has been revised accordingly; removed vanadium from the surface soil bullet as the reported concentrations did not exceed background for any surface soil sample.

PREQB Comment 15: Page 7-1, Section 7.1, Subsurface Soil. 1 to 3 foot interval:

- a. Bullet # 1: Please clarify that lead also exceeds background in this paragraph.

Navy Response to PREQB Comment 15a: The text has been revised accordingly.

- b. Bullet #2: Please clarify that thallium also exceeds background and revises to note that this exceedance occurs in all seven soil borings at this depth interval.

Navy Response to PREQB Comment 15b: The text has been revised accordingly.

- c. Bullet #3: Please clarify that cobalt also exceeds background in this paragraph and revise to note that this exceedance occurs in all seven soil borings at this depth interval with the exception of 57SB04.

Navy Response to PREQB Comment 15c: The text has been revised accordingly.

- d. Bullet #4: It appears that this bullet is discussing those metals that exceeded both background and ecological screening criteria. If so, please revise the text to state that these metals (mercury and zinc) also exceed the ecological screening criteria. Otherwise, many other metals that exceed only background would need to be included in this paragraph (i.e., beryllium, cadmium, nickel).

Navy Response to PREQB Comment 15d: The text has been revised accordingly.

- e. *Please add a bullet for arsenic which exceeds background and the industrial regional screening level at two locations for shallow subsurface soil (57SB02 and 57SB05).*

Navy Response to PREQB Comment 15e: The text has been revised accordingly.

PREQB Comment 16: Pages 7-1 and 7-2, Section 7.1, Subsurface Soil, 9 to 11 foot interval:

- a. *Bullet #1: Please revise the text to remove the word "shallow."*

Navy Response to PREQB Comment 16a: This bullet has been removed since only the thallium background value was exceeded. Recall that significant ecological exposure does not exist below the depth of three feet below ground surface. Note that the only cobalt exceeded background and one or more of the project criteria. The text for Subsurface Soil – 9 to 11 foot interval has been revised accordingly.

- b. *Bullet #2: Please explain why the zinc exceedance is not included with bullet #4 since the exceedance relates only to background and the ecological screening value, as is the case for the other metals listed in bullet #4. If this bullet is maintained, please remove the word "shallow."*

Navy Response to PREQB Comment 16b: Zinc has been removed from this section as only the background value was exceeded. Recall that significant ecological exposure does not exist below the depth of three feet below ground surface.

- c. *Bullet #3: Please remove the word "shallow" and include sample 57SB05 in the list of samples affected by the cobalt exceedances.*

Navy Response to PREQB Comment 16c: The text has been revised accordingly.

- d. *Bullet #4: Please revise the text to state that these metals (lead, barium, and nickel) also exceed the ecological screening criteria. Otherwise, many other metals that exceed only background would need to be included in this paragraph.*

Navy Response to PREQB Comment 16d: This bullet has been removed from this section as only the associated background value for barium, nickel, and zinc was exceeded.

PREQB Comment 17: Page 7-2, Section 7.1, Groundwater:

- a. *Bullet #2: Please clarify why the mercury exceedances are listed since these values are below the background values, as per Table 6-3.*

Navy Response to PREQB Comment 17a: Total and dissolved mercury did exceed background and one or more of the groundwater screening criteria at four locations as previously discussed in the Navy Responses to PREQB Comments 9a and 10. Also see Navy Response to PREQB Comment 20 and revised Table 6-3.

- b. *Bullet #3: The text states that vanadium exceeded the three project comparison criteria. However, only two project comparison criteria were included on Table 6-3. Please clarify.*

Navy Response to PREQB Comment 17b: The three project comparison criteria include Regional Tap Water Screening Values, Selected Ecological Groundwater Screening Values, and NAPR Basewide Background Values. Note also that the Puerto Rico's Water Quality Standards have been added to Table 6-3 according to the Navy Response to PREQB Comment 3; however, a vanadium standard has not been established.

- c. *Bullet #3: Please clarify that the project comparison criteria for vanadium was exceeded in*

both total and dissolved analyses.

Navy Response to PREQB Comment 17c: Reported total vanadium concentrations did not exceed NAPR Basewide Background values for the total analyses as shown on revised Table 6-3. Section 7.1 summarizes samples that exceed background and one or more of the project criteria (note that for constituents which do not have established background criteria, impacts are indicated by the exceedance of at least one of the project criteria). The first paragraph of Section 7.1 has been revised to clarify this issue.

d. Please add bullets to discuss the silver and nickel exceedances in groundwater.

Navy Response to PREQB Comment 17d:

The reported total and dissolved concentrations for nickel and silver did not exceed the associated background values as shown on revised Table 6-3. See Navy Responses to PREQB Comments 9a, 10, and 20.

PREQB Comment 18: *Page 7-2, Section 7.2, Paragraph 1: Please consider the following when scoping additional work for this area: 1) The figures showing the sampling locations (both past and most recent) indicate that sampling has not taken place in the immediate vicinity of the loading dock. Sample 3E-02 appears to be the closest, however, it does not appear to be right up against the loading dock itself where spills may have occurred, nor is there a concrete wipe or chip sample located right at the loading dock area. As additional work is required at this site, please consider the addition of one or more sampling points in the immediate vicinity of the loading dock in order to evaluate conditions.*

Navy Response to PREQB Comment 18 (1): Surface soil sample 57SS12 was collected and soil boring 3E-02 advanced in the vicinity of the loading dock. Nonetheless, additional samples in the vicinity of the loading dock will be considered for future investigations.

2) Please consider focusing a portion of the future sampling effort on the area of the suspected disposal pit location shown to the west of the pad. As indicated in the report, there were only a few surface soil samples collected in this area and if there were contaminants formerly disposed of into a pit area that may have been subsequently filled, surface samples may not be entirely representative of conditions in this area.

Navy Response to PREQB Comment 18 (2): Additional samples in the area of the suspected disposal pit will be considered for future investigations.

PREQB Comment 19: *Tables 6-1 through 6-6: All metals results in these tables include nondetect results reported at the method detection limit (MDL). Typically, the MDL is a statistically derived value that is not accurately verified by the laboratory analysis. The reporting limits are accurately verified by laboratory analyses of standards at the unadjusted reporting limit. The reporting limits (not MDLs) should be used for the evaluation of the data when comparing results to the project comparison criteria due to the higher accuracy of these numbers. Please revise Tables 6-1 through 6-6 to reflect the reporting of nondetect results down to the reporting limit instead of the MDL. If the reporting limits exceed the comparison criteria, include a discussion in Section 6 of how these exceedances affect the achievement of the project objectives. It is acknowledged that this comment has been issued before and is pending EPA resolution, since PREQB defers to EPA position on this issue. Until EPA decision we will continue including the comment every time we notice it.*

Navy Response to PREQB Comment 19: This issue is currently awaiting resolution pending the outcome of the Response to Comment Letter for the Draft Phase I RFI for SWMU 60 (Former Landfill at the Marina) dated September 25, 2009. Once this issue is resolved, the final response will be applied to this document. The Navy position is that no revisions to the text or tables are proposed.

PREQB Comment 20: *Table 6-3:* Please verify the background concentrations listed in this table. Based on a review Table 4-4 of the Revised Final II Summary Report for Environmental Background Concentrations of Inorganic Compounds at Naval Activity Puerto Rico, the values presented in Table 6-3 do not coincide with the UTL values listed in the reference. For example, Table 6-3 states that a background value is not available for total antimony and total barium. However, the Table 4-4 of the reference lists a value of 12.24 ug/L for total antimony and 18.89 ug/L for total barium. The background concentration for total lead listed in Table 6-3 is 633 ug/L; however, Table 4-4 of the reference lists a value of 26.25 ug/L, for total lead. Please verify the background values listed in the tables.

Navy Response to PREQB Comment 20: The Background values listed in Table 6-3 did not accurately reflect the background concentrations listed in Table 4-4 of the Revised Final II Summary Report for Environmental Background Concentrations of Inorganic Compounds at NAPR. Table 6-3 has been updated to reflect comparison to the correct numbers for background for both total and dissolved inorganics.

PREQB Comment 21: *Figure 4-2:* Concrete wipe sample location 57WS04 is not visible on this figure. Please add the location of this field duplicate sample.

Navy Response to PREQB Comment 21: Concrete wipe sample 57WS04 has been added to Figures 4-1, 4-2 and 6-1 through 6-5.

APPENDIX B, CHAIN-OF-CUSTODY FORMS

PREQB Comment 1: *According to the field notes (page 21 of Robert Roselius' notes), some of the parameters for groundwater sample 57GW02 (DRO, PCBs, SVOCs, and metals) were collected on February 1, 2010. However, the chain-of-custody only shows a collection date of January 31, 2010 for all parameters. Please clarify.*

Navy Response to PREQB Comment 1: An attempt to sample well 57SB02 occurred on January 31, 2010; however, due to insufficient groundwater yield the required sample volume was not available. As per USEPA low flow purging and sampling procedures (Final GW Sampling SOP, March 16, 1998) for wells with insufficient yield, the remaining required volume of groundwater was collected on February 1, 2010 once the well had recovered sufficiently to allow for groundwater collection. Section 4.3 (Monitoring Well Installation and Groundwater Sampling) has been revised to clarify the collection of sample 57GW02.

PREQB Comment 2: *A review of the chains-of-custody showed that there were some sampling and handling issues with a few of the samples (specifically with bubbles in some of the vials and with bottle breakage). Please clarify what measures will be taken in future deployments to ensure that there are no bubbles in the vials submitted to the laboratory and in making sure that the samples are well wrapped/protected to minimize breakage during transit.*

Navy Response to PREQB Comment 2: Considering the logistics and inherent risk of sample bottle breakage during sample delivery to the mainland laboratory; the breakage associated with the SWMU 57 investigation is not excessive (all analyses were performed). We have a sample packaging and shipping program in place and endeavor to properly package the samples to minimize breakage. Note that the majority of the pea sized bubbles identified in the VOA vials were in trip blank samples prepared at the laboratory. Only one groundwater sample was identified to have peas sized bubbles (two of three vials of sample 57GW05). The field team endeavors to properly collect, package and ship the required environmental samples.

APPENDIX E~ PHASE I RFI DATA VALIDATION SUMMARIES

PREQB Comment 1: *For all validation reports, it appears that when blank qualification occurred in the metals analyses, the validator qualified the associated samples as nondetect (U) at the reported concentration. In many cases, the reported concentrations were below the reporting limit. Therefore, the new nondetect result at this "reported concentration" is not an accurate reflection of the actual nondetect value. As per the EPA Region 2 validation guidelines, sample results below the reporting limit should be raised to the reporting limit if affected by the blank contamination. Please revisit all validation memos and apply qualifications in accordance with EPA Region 2 procedures.*

Navy Response to PREQB Comment 1: The blank contamination actions were modified in response to a laboratory modification in how the non-detect results were reported. The Region II validation SOPs were written based on the assumption that non-detect results would be reported to the reporting limit. However, many labs currently report non-detect results to the MDL. For this project the laboratory reported all non-detect results to the MDL. The validator proposes that raising a few results to the reporting limit because of blank contamination would introduce an inconsistency in the manner of reporting non-detects. Since reporting results to the MDL is a common laboratory practice it made sense to accommodate this practice by modifying the validation guidance as noted in the validation reports. The blank-qualified non-detect results do not have lower reporting limits. The reporting limits are not changed. The U flag is stating that the qualified result should be considered non-detect at the reported value due to blank contamination (consider the value as a raised MDL) rather than positive at the reported value. Reporting limits are present on all validated EDD files for these SDGs. This modification is clearly stated on pp. 16 & 17 of the DVR.