



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

AUG 30 2011

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

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

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

SWMU 9 (Area B, Tank 214 Area) – Full RCRA Facility Investigation Report, dated  
June 16, 2011

Dear Mr. Davidson:

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

SWMU 9 (Area B, Tank 214 Area) – Full RCRA Facility Investigation Report

EPA has completed its review of the above document, which was submitted on behalf of the Navy by Mr. Mark Kimes (of Michael Baker Inc.) letter of June 16, 2011. EPA does not fully approve the report, and has a number of concerns. Firstly, in Section 6.5 (Groundwater) it is stated "These results support the Phase I RFI conclusions that the distribution of benzene, ethylbenzene, and naphthalene suggests a release or multiple releases from Tank 214." Similar statements are made in section 7.1 (conclusions); yet in Section 7.2 (recommendations) groundwater is not mentioned as a media that should be evaluated as part of the CMS. Please revise the recommendations made in Section 7.1, to include groundwater as a media to be evaluated as part of the CMS.

Secondly, the Navy has not adequately demonstrated that its conclusion, given in Section 7.1 (conclusions), that the several organic and inorganic constituents detected above action levels in surface or subsurface soils, and/or sediments (acetone, cobalt, 2-butanone, carbon disulfide, chromium, copper, and vanadium), "are apparently not related to SWMU 9 activities."

Thirdly, even if the Navy demonstrates that the above constituent detections are not the result of releases from SWMU 9, the Navy must either identify the source or sources of those releases; or demonstrate that the detections are the result of laboratory error, artifacts, etc; or else propose a program to fully evaluate the nature and extent of any contamination indicated by those detections, and evaluate whether or not that contamination poses a potential threat to human health and/or the environment.

Although, Section 7.2 (Recommendations) states that "the surface and subsurface around Tank 214, and estuarine wetland environment has been impact by past activities at SWMU 9", the recommendations for further action only propose performing a human health risk assessment (HHRA) and a ecological risk assessment (ERA) as part of the CMS. It does not clearly specify the constituents of concern, or the media to be evaluated. As indicated above, those constituents that the report indicates are not related to SWMU 9 activities should be included in the HHRA and ERA evaluations, unless the Navy can demonstrate the source of those constituent releases, or demonstrate that they are the result of laboratory error, artifacts, etc. Also, the media to be evaluated as part of the CMS should include surface and subsurface soils, groundwater, and estuarine sediments. Please revise Section 7.2 (Recommendations) to describe the constituents of concern, and the media to be evaluated as part of the CMS. Also, in the recommendations please discuss the proposed timeframe to complete the updated HHRA and ERA.

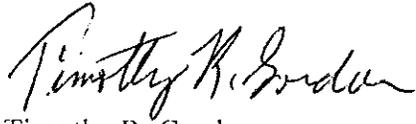
Within 60 days of your receipt of this letter, please submit revisions to the Full RFI Report which acceptably address the above comments.

Also, within 60 days of your receipt of this letter, please submit a written discussion summarizing the corrective action status of the other areas of SWMU 9, including Areas A and C, and indicate whether or not additional actions are needed for those other areas of SWMU 9, and if needed, describe the additional actions required.

In addition, the Puerto Rico Environmental Quality Board (PREQB) has not yet completed its review of the Full RFI Report, but has indicated they expect to complete their review by September 1, 2011. Assuming PREQB's comments are available by approximately September 1, if warranted based on those comments, please also submit any revisions to the Full RFI Report to address PREQB's comments within 60 days of your receipt of this letter.

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

Sincerely yours,

A handwritten signature in cursive script that reads "Timothy R. Gordon".

Timothy R. Gordon  
Project Coordinator  
Corrective Action and Special Projects Section  
RCRA Programs Branch

cc: Ms. Wilmarie Rivera, P.R. Environmental Quality Board  
Ms. Gloria Toro, P.R. Environmental Quality Board  
Mr. Mark Kimes, Baker Environmental  
Ms. Cathy Dare, TechLaw Inc.  
Mr. Felix Lopez, USF&WS



COMMONWEALTH OF PUERTO RICO  
**Office of the Governor**  
**Environmental Quality Board**



*ENVIRONMENTAL EMERGENCIES RESPONSE AREA*

September 14, 2011

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

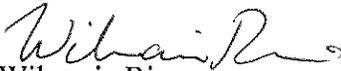
**RE: REVIEW DRAFT FINAL FULL RCRA FACILITY  
INVESTIGATION REPORT FOR SWMU 9 – AREA B, TANK 214 AREA  
NAVAL ACTIVITY PUERTO RICO, CEIBA  
EPA ID NO. PR2170027203**

Dear Mr. Gordon:

The Hazardous Wastes Permits Division (HWPD) and the Federal Facility Coordinator has finished the review of the Draft Final Full RCRA Facility Investigation Report for SWMU 9 – Area B, Tank 214 Area.

Both divisions are sending joint comments in order to avoid duplicity and facilitate Navy responses. Enclosed please find PREQB's comments to the document. If you have any additional comment or question please feel free to contact Gloria M. Toro Agrait at (787) 767-8181 extension 3586 or myself at extension 6129.

Cordially,

  
Wilmarie Rivera  
Federal Facilities Coordinator  
Environmental Emergencies Response Area

cc: Gloria M. Toro Agrait, EQB Hazardous Waste Permits Division  
Mark E. Davidson, US Navy, BRAC PMO SE

**Technical Review of the Draft Final Full RCRA Facility  
Investigation Report SWMU 9 – Area B, Tank 214 Area  
Naval Activity Puerto Rico, Ceiba  
EPA ID No. PR2170027203**

**GENERAL COMMENTS**

1. As per the DoD Quality Systems Manual for Environmental Laboratories (DoD QSM), Version 4.1, the results should be reported down to the LOD which is approximately 2-3x higher than the MDL (or DL). Please note that the reporting of results to the LOD and not the MDL is consistent with other Navy projects in Puerto Rico. Please revise Tables 6-1 through 6-7, the tables of sample results presented in Appendix B and the tables of IDW results presented in Appendix A to reflect the reporting of nondetect results down to the LOD instead of the MDL.
2. It appears based on a review of the soil boring logs that a soil sample was not always collected from the depth interval exhibiting the highest recorded PID readings (e.g., soil boring 9SB40). Please provide the rationale for not sampling the interval with the highest PID reading for applicable sample locations.
3. Please include in the text of the report information explaining why two rounds of sampling (January 2009 and January 2011) were performed. For example, the information could be included at the second paragraph of Section 1.0 Introduction or/and at Section 4.0 Full RCRA Facility Investigation Activities.

**PAGE-SPECIFIC COMMENTS**

1. Table of Contents: Please add Appendix A.2, 2011 Field Activities to the table of contents.
2. Acronyms and Abbreviations: Include the acronym for DFM.
3. Page 1-1, Section 1.0: Please revise the first sentence of the first paragraph since it indicates that the documents presents the results of the RFI Report. It should read the results of the RFI Work Plan and Proposed Additional Sampling Plan implementation.
4. Page 2-4, Section 2.3, Additional Data Collection Field Investigation: The text states that the 2004 report included risk calculations for the CMS data. However, text on page 2-3 states that data from the CMS were deemed to be unacceptable. Please clarify why these data were used in the risk calculations if deemed unacceptable.
5. Page 3-5, First paragraph: Please revise the fifth line and replace the word “be” with “by”.
6. Page 4-1, Section 4, Bullet 2: The subsurface soil samples were collected from 16 locations versus 15 locations.

7. Page 4-6, Section 4.2.2.
  - a. Paragraph 2: Please confirm that the sand pack only extends 0.5 feet above the top of the screen in these wells. As this is a minimal amount of sand above the screen, has it been confirmed that there has been no settlement, and therefore, no impact of the bentonite seal on the screened section?
  - b. Please note that it is a common practice to wait for a period of one to two weeks following well development before sampling is conducted (refer to the December 1995 USEPA OSWER article EPA/540/S-95/504 by Puls and Barcelona) to allow for physical and chemical equilibration in the area of newly-installed wells. According to the field notes, the new well 9GW09-11 was developed one day prior to being sampled. Please provide a discussion on the potential effects on the representativeness of this sample due to the shorter development time.
8. Page 4-7, Section 4.2.2: Please remove the final paragraph of this section, as it is a remnant of the soil sampling discussion.
9. Page 4-7, Section 4.3, Paragraph 2: Did the lesser sample volume collected from low-yielding temporary wells affect the detection limits?
10. Page 4-7, Section 4.3: Why were the temporary wells not converted into permanent installations if the intent was to keep them in the ground for multiple years and sample them again?
11. Page 4-8, Section 4.4.1, Paragraph 1: The sixth sentence in the paragraph indicates that the samples were collected with a stainless steel spoon. Please clarify the language to indicate that dedicated, decontaminated stainless steel spoons were used in the collection of the sediment samples.
12. Page 4-10, Section 4.8, Paragraph 2: Please include some additional detail in the text regarding the disposal of the IDW. Evidence of disposal should be presented along with the analytical data for IDW for the January 2009 sampling event. For the January 2011 sampling event, please submit the evidence of disposal when available.
13. Page 4-12, Section 4.10.1, Paragraph 3: The second groundwater field duplicate was collected at 13GW05D, not 9GW05D. Please revise the text accordingly.
14. Page 4-13, Section 4.10.5: The last sentence of the section should be revised and corrected since it creates the impression that the equipments rinsate blanks are for many SWMUs. Please correct it to reflect that the selected analysis for the rinsate blank samples correspond to the sampling and analytical program for the SWMU and the media corresponding to the equipment being sampled.
15. Page 4-14, Section 4.13: Briefly describe the field procedures for decontamination performed at the site.

16. Page 5-1, Section 5.1: Include more information regarding the area where the sea turtle was saw and if it is expected to be a Fresh Water Turtle or a Sea Turtle.
17. Page 5-3, Section 5.2.4, Paragraph 2: As the water level measurements were noted to have been recorded following the ground water sampling events, please comment about how long the wells were allowed to equilibrate before measurements were recorded. It is understood that low-flow purging and sampling methodologies were followed which would result in minimal drawdown, however, it was also noted that yields were a problem at some locations and therefore it may have taken some time for the wells to re-charge/re-equilibrate.
18. Page 6-1, Section 6.1: Please also screen soil analytical data (both surface and subsurface soil sample data down to the water table) using EPA's Soil Screening Levels to evaluate the potential for soil contamination to leach to groundwater. This is pertinent to understanding the nature and extent of contamination.
19. Page 6-8, Section 6.2: Regarding the LLPAHs (third paragraph), it is stated that there were no exceedances of low or high molecular weight PAHs. It is not clear by the sentence if indeed there were detections of the compounds, but not exceedances, or if there were no detections of any of the mentioned compounds group. Please clarify.
20. Page 6-8, Section 6.2, Paragraph 5: Concentrations of zinc exceeded the ecological surface soil screening criteria at select locations but were below background. Therefore, this metal should be discussed instead in Paragraph 6. Please revise accordingly.
21. Page 6-11, Section 6.2, paragraph 2: As VOCs, DRO and PAHs have dissimilar absorption to soils, it is unclear that dissimilar distribution patterns as the sole line of evidence is sufficient to conclude that the VOCs are not site-related. Please clarify whether it is known that solvents were not used to clean the tanks after removal of sludge, even if on occasion.
22. Page 6-12, Section 6.4: Please review the last four sentences of the second paragraph for typographical errors and concordance. Especially the seventh and eighth sentence.
23. Page 6-12, Section 6.4: Please note that the reporting of sediment results on a dry-weight basis is in accordance with the method for reporting results. DRO, especially weathered DRO, and longer-chain hydrocarbons are unlikely to be in the dissolved phase and removal of the water portion of the mass of the sample from the result would have little to no effect on the DRO concentration, which given its low solubility, would be absorbed to the solid matrix. Please revise this section accordingly.
24. Page 6-14, Section 6.5: Please clarify why naphthalene is not included as a VOC that exceeds the tap water RSL in paragraph 2 when paragraph 6 discusses slight exceedances of the tap water RSL for naphthalene in groundwater.
25. Page 6-15, Section 6.6.1, Paragraph 6: The text states that the laboratory reported to MDLs for this project. However, this text should clarify that the laboratory reported results down to

MDLs only for the 2009 investigation. The laboratory reported results down to reporting limits for the 2011 investigation.

26. Page 6-16, Section 6.6.3, Paragraph 2: Please revise the text to state “unusable non-detect data” rather than “usable non-detect data”.
27. Page 7-1, Section 7.1: It is unclear that the extent of GRO and DRO contamination has been delineated. Please refer to PREQB Comments 34 and 35 below and revise this section accordingly.
28. Page 7-2, Section 7.2: Please clarify the recommendations to ensure that additional delineation is conducted, as discussed in Comments 34 and 35 below. Clarification is needed on the path forward for evaluating heavier molecular weight petroleum contamination in sediments. Please note that PREQB regulates oil as well as GRO and DRO; therefore, additional delineation is warranted to determine the extent of weathered diesel or oil. For samples where the DRO concentration is attributable to a single peak (as discussed in Section 6.4), the additional delineation may be warranted once the identity of the contamination is known.
29. Page 7-3, Section 7.2: The report states that previous toxicity testing of sediments with *Leptocheirus plumulosus* yielded inconclusive results with respect to lead concentrations and adverse toxic effects. Please indicate within the text if AVS/SEM analyses were also conducted on these sediment samples.
30. Table 4-1:
  - a. Per the boring log and field notes, revise the sample dates for 9SB41-00, 9SB41-03 and 9SB41-05 to 01/19/09.
  - b. According to the field notes in Appendix A.2, a field duplicate was collected at sediment location 9SD109. Please explain why this sample was not shown on Table 4-1 or any of the results tables.
  - c. According to the field notes in Appendix A.2, a field duplicate and MS/MSD sample were collected at sediment location 9SD183, not 9SD180. Please clarify and revise all tables, text, figures, etc. as needed.
31. Table 4-4: The depth to water on 1/14/11 for well 9PW44 is listed as 9.20 feet. It should be noted that sample 9PW44 is not listed in the field notes on 1/4/11 for depth to water measurements and sample 9SB54 was listed twice. Please confirm the correct measurements were entered for each of these wells.
32. Table 6-1: The sources of the footnotes listed in the table are not provided. It appears that page 9 of Table 6-1 is missing in the report. Please correct the table by providing the missing page.
33. Figures: Please check the figure legends. Those that show sampling locations indicate that the 2011 samples were collected in February as opposed to January.

34. Figure 6-2:

- a. Sample 9SB43 reports a GRO concentration of 1800 mg/kg. Please add isocontours in this area or clarify why this result is reported on both Figures 6-2 and 6-3. It appears that additional investigation to the north and northwest is needed to delineate the GRO contamination in this area. This comment applies to Figure 6-3 as well.
- b. Please clarify the placement of the isocontours to the east of sample 9PW53. It appears that further delineation of the extent of contamination above 100 mg/kg is needed between sample 9PW53 and the samples to the east (9SB51, 9PW57, 9PW58 and 9PW59).
- c. The reported concentration for sample 9SB55 on this figure is 1075 mg/kg; however, the Table 6-3 lists a value of 1800 mg/kg. Please verify the result.
- d. Please extend the isocontour line for 1000 mg/kg to include sample 9SB55. Further delineation to the south of this sample appears warranted to delineate the extent of GRO contamination above 100 mg/kg.

35. Figure 6-11: It does not appear that TPH –DRO has been delineated to the west of sample 9SD117, 120 and 123. Although only sample 9SD120 is attributable to DRO, the concentration was reported as an estimated 1,900 mg/kg and the identity of the contaminants contributing to contamination in the surrounding samples 9SD117 and 123 needs to be determined and delineated as well. Please address.

36. Appendix A.1, 2009 Field Activities: Soil Boring Logs: Please correct the dates on the boring logs for 9SB52 (1/17/09) and 9SB49 (1/21/09).

37. Appendix A.2, 2011 Field Activities:

- a. According to the USEPA Region 2 low-flow sampling technique which was cited by Baker in Section 4.2.2, the target pump intake depth is generally set at the mid-point of the most permeable zone in the screened interval. Based on this, it is unclear what the rationale was for the pump intake depths below, which are at the very bottom or in some instances, below the screened interval. Please provide clear rationale for these pump intake depths and an explanation as to how these provide data most representative of groundwater conditions:
  - i. 9GW37-11: The screened interval is 7-12' and the pump intake depth was set at 12'.
  - ii. 9GW39-11: The screened interval is 11.5-16.5' and the pump intake depth was set at 16'.
  - iii. 9GW40-11: The screened interval is 10-15' and the pump intake depth was set at 15'.
  - iv. 9GW41-11: The screened interval is 6-16' and the pump intake depth was set at 16'.
  - v. 9GW47-11: The screened interval is 10-20' and the pump intake depth was set at 20'.
  - vi. 9GW52-11: The screened interval is 14-24' and the pump intake depth was set at 24'.
  - vii. 9GW53-11: The screened interval is 7-17' and the pump intake depth was set at 18'.
  - viii. 9GW54-11: The screened interval is 14-24' and the pump intake depth was set at 26.5'.
  - ix. 9GW56-11: The screened interval is 2.5-12.5' and the pump intake depth was set at 13'.
  - x. 9GW57-11: The screened interval is 1.5-11.5' and the pump intake depth was set at 13'.

- xi. 9GW58-11: The screened interval is 2-12' and the pump intake depth was set at 13.5'.
  - xii. 9GW59-11: The screened interval is 2-12' and the pump intake depth was set at 13'.
  - b. The groundwater sample log form for 9GW42-11 states that the screened interval is "unknown". However, the January 2009 boring log shows that the screened interval is 15-20'. Please clarify.
38. Appendix B, Laboratory Analytical Results: Please revise the data tables to eliminate the reporting of a value with rejected results (e.g., 4.2 R). These results are rejected and are therefore not usable for meeting project objectives. The value reported with the "R" qualifier is misleading and should be eliminated and replaced with only the "R" qualifier.
39. Appendix C.2, 2011 Full RFI Data Validation Summaries: Compuchem SDG 1101103: The validator rejected the DRO results for sediment sample 9SD125 because of field duplicate variability. This is the only case where results were rejected due to field duplicate variability. It is unclear on the basis for "rejection" of this result. Although there was significant variability (2200 vs. 370 mg/kg) between the original and field duplicate sample, both results were consistently and significantly above the PREQB TPH screening value of 100 mg/kg. In addition, other SDGs (Compuchem 2011 SDG 1101114, Test America 2009 SDG NAPR44015-2, Test America 2009 SDG NAPR44077-1, Test America 2009 SDG NAPR44077-2, Test America 2009 SDG NAPR 44077-3) showed significant and in some cases, higher variability in field duplicate pairs and results were only estimated (J) by the validator in these instances. The DRO results in sample 9SD125 are useful for the purposes of this investigation. Please revise the validation report and subsequent tables, figures, and text to include the DRO results for sample 9SD125.