

Airside Business Park
100 Airside Drive
Moon Township, PA 15108
Office: 412-269-6300
Fax: 412-375-3995

July 8, 2010

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 N62470-07-D-0502
IQC for A/E Services for Multi-Media
Environmental Compliance Engineering Support
Delivery Order (DO) 0002
U.S. Naval Activity Puerto Rico (NAPR)
EPA I.D. No. PR2170027203
Draft Full RCRA Facility Investigation Report for SWMU 9 – Area B, Tank 214 Area
Response to Comments and Proposal for Additional Sampling

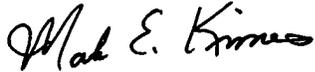
Dear Mr. Everett:

Michael Baker, Jr., Inc. (Baker), on behalf of the Navy, is pleased to present you with the Navy Response to EPA Comment Letter dated May 27, 2010 and Evaluation (dated March 29, 2010) of Navy Responses to PREQB Evaluation of Responses to Comments on the Draft Full RCRA Facility Investigation (RFI) for SWMU 9 (Area B, Tank 214 Area) dated July 14, 2009. The Navy responses to these comments are attached for your review.

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

Additional distribution has been made as indicated below.

Sincerely,
MICHAEL BAKER JR., INC.



Mark E. Kimes, P.E.
Activity Coordinator

MEK/lp
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)
Mr. Pedro Ruiz, NAPR (1 hard copy)
Mr. Tim Gordon, US EPA Region II (1 hard copy)
Mr. Carl Soderberg, US EPA Caribbean Office (1 hard copy)
Mr. Felix Lopez, US F&WS (1 hard copy)
Mr. Jonathan Flewelling, TechLaw, Inc. (1 hard copy)
Ms. Willmarie Rivera, PREQB (1 hard copy)
Ms. Gloria Toro, PREQB (1 hard copy)

NAVY RESPONSE TO EPA COMMENT LETTER DATED MAY 27, 2010

Navy Response to EPA Comment Letter, dated May 27, 2010 and Evaluation (dated March 29, 2010) of Navy Responses to PREQB Evaluation of Responses to Comments on the Draft Full RCRA Facility Investigation Report for SWMU 9 (Area B, Tank 214 Area), dated July 14, 2009

(EPA and PREQB comments are in *italics* while Navy responses are in regular print.)

EPA COMMENTS DATED MAY 27, 2010

EPA has completed its review of the Responses to EPA's comments dated September 17, 2009 on the Draft Full RFI Investigation Report for Area B Tank 214, and the proposal for additional investigations to further delineate contamination in the subsurface soil, estuarine wetland sediment and groundwater at SWMU 9. Both were included with Mr. Mark Kimes' (of your consultant Michael Baker Jr.) letter of March 5, 2010, submitted on behalf of the Navy. As part of that review, EPA requested our consultant, TechLaw Inc. to review the March 5 responses and proposal for additional investigations. TechLaw had two comments on the proposal for additional investigations:

1) TechLaw's December 23, 2009, evaluation of the November 19, 2009, Navy Response to EPA Comments on the Draft Full RCRA Facility Investigation Report for SWMU 9 – Area B, Tank 214 Area, recommended that remedial options for groundwater contamination in the vicinity of, and to the north, and northwest of, wells 9SB41, 9SB42, and 9SB44 be addressed during the Corrective Measures Study. Since the Navy is now proposing additional sampling from several temporary wells and new monitoring wells as part of the supplemental sampling effort, TechLaw recommends that a groundwater sample be collected from temporary well 9TW/SB09 at the time of the proposed additional sampling activities. If temporary well 9TW/SB09 was previously abandoned, it is recommended that a soil boring and/or temporary well be reinstalled in that location for collection of a groundwater sample. Data from 9TW/SB09 will provide a current and more complete delineation of groundwater contamination in this area.

2) In addition, one minor comment: the third bullet on page 2 refers to sediment samples "9SD09 through 9SD12." This should be revised to read "9SD109 through 9SD112."

In addition, no schedule for implementing the additional investigations was included with the March 5 letter. Therefore, within thirty days of your receipt of this letter, please submit written responses to the above comments and/or a revised proposal for additional investigations, along with a schedule for implementing those additional investigations and submitting a revised draft Full RFI Report incorporating the results.

Navy's July 9, 2010 Response to EPA Comments Dated May 27, 2010: The Navy concurs with EPA that a groundwater sample from the location of 9TW/SB09 would assist in the delineation of groundwater contamination. Since 9TW/SB09 was previously abandoned, a new well will be installed at this location and sampled as suggested by this comment.

Comment 2 is noted; the sediment sample reference in the third bullet of page 2 should read 9SD109 through 9SD112.

A schedule is attached to this response to comments as Figure 1.

PREQB TECHNICAL EVALUATION DATED MARCH 26, 2010

Please note that only those comments with remaining outstanding issues are presented below. All other comments have been resolved.

Additional Sampling:

1. Please analyze a subset of the new sediment samples for a full suite of metals and PAHs to fully document the spatial extent of previously documented exceedances of petroleum constituents and to provide data to evaluate risks to human health and the environment.

Navy Response: The Navy offers the following points of clarification relative to this comment. A total of 42 sediment samples were collected during the 2009 Full RFI field investigation and analyzed for Appendix IX PAHs and metals. In addition, eleven sediment samples were collected during the 2007 Phase I RFI field investigation, and an additional fifteen sediment samples were collected during a 1999 Phase III RFI field investigation and 2000 CMS field investigation. These 26 sediment samples also were analyzed for Appendix IX PAHs and metals. With the exception of vanadium and lead, the extent of metal contamination in SWMU 9 (Area A, Tank 214) sediment has been defined and additional delineation is not deemed necessary (the proposal for additional sampling as well as the Navy's response to PREQB comment No. 2 below contain recommendations for further delineation of vanadium and lead). Additional evaluation of the available PAH data indicates that PAH contamination in sediment also has been defined except for one location located in the northern portion of the site (9SD92). Therefore, the proposal for additional sampling will be revised to indicate that sediment collected at two proposed locations north of 9SD92 (9SD124 and 9SD125) will include analyses for PAHs. Beyond these proposed analyses, the Navy does not believe additional analyses for metals and PAHs are necessary to define the spatial extent of previously documented petroleum constituents. Furthermore, the Navy believes that a satisfactory number of sediment samples have previously been collected to provide sufficient data to evaluate risks to human health and ecological receptors.

Evaluation of Response: Contaminants of potential concern (COPCs) include LLPAHs, lead, vanadium, and five other metals that exceed sediment ESVs, some of which were shown to be spatially correlated with fuel-related hydrocarbon contamination (e.g. TPH DRO) from SWMU 9. Recommendations on page 7-2 of the report also concluded that the spatial extent of TPH DRO, LLPAHs, and vanadium in sediment has not been defined. Because ESV exceedances of several organic and inorganic COPCs were found to be spatially coincident, all new samples collected to further delineate the spatial extent of TPH DRO, LLPAHs, lead, and vanadium in sediments also should be analyzed for other key COPCs. Key COPCs for which exceedances of sediment ESVs at numerous locations were documented include benzo(a)pyrene, chrysene, pyrene, cobalt, copper, lead, and vanadium. At a minimum, please analyze a subset of the most distant new sediment "delineation samples" for these seven COPCs. These supplemental data are needed to fully map the nature and spatial extent of ESV exceedances by these key organic and inorganic COPCs in the SWMU-affected sediments.

Navy's July 9, 2010 Response to PREQB Evaluation of Response: As indicated in the Navy's previous response, there has been extensive sediment sampling in the vicinity of SWMU 9 Area B Tank 214 Area. The results of this sampling, as presented in the Draft Full RFI Report show that the extent of site contaminants in sediment have been delineated (with the exceptions noted in the above and in the conclusions and recommendations of the Draft Full RFI Report) and do not constitute a data gap. No additional sediment sampling analysis beyond what is recommended is justified at this time.

Evaluation of Responses to PREQB Evaluations of Responses to Comments:

The responses to PREQB's evaluations are acceptable with the exception of the following comment/responses discussed below.

General Comments:

1. Evaluation of Response to General Comment 6 and Page-Specific Comments 23, 29 and 30. As organic lead is a constituent of leaded gasoline, please include an evaluation of tetraethyl lead in the baseline risk assessments (for both ecological and human health) where the fraction of lead considered to be organic is estimated and the potential risks evaluated initially using appropriate screening criteria and then in the baseline risk assessments if identified as a chemical of potential concern.

Navy Response: The Navy respectively disagrees with this comment. As discussed in the Navy responses dated November 19, 2009, The GC/MS technology available for speciation of TEL from other organic and inorganic lead compounds provides a method detection limit (MDL) of 3,200 µg/kg and a reporting limit (RL) of 20,000 µg/kg for solid samples. Noting that TEL's Regional Screening Levels (RSLs) for residential and industrial soil are 0.61 µg/kg and 6.2 µg/kg, respectively, the detection limits provided by the method will not meet the human health screening criteria. The elevated detection limits for TEL also preclude the ability to differentiate between lead species for ecological purposes. While the available technology will not provide detection limits that meet screening criteria, the Navy does not believe it is appropriate to assume an organic lead concentration since there is no known information from the literature upon which to make an accurate estimation.

Evaluation of Response: Because leaded fuel storage tank bottom sludges are known to have been disposed of adjacent to the estuarine wetland, please evaluate, at a minimum, qualitatively the potential human health and ecological risks from exposure to organic lead. Reasonable assumptions can be made about the potential proportion of organic lead that may occur in soil and sediment impacted by leaded fuel releases and/or historical sludge disposal practices at SWMU 9. Please evaluate a worst case scenario for potential organic lead releases, then apply typical concentrations of organic lead in leaded fuels with background soil and sediment data on inorganic lead concentrations to infer the potential fraction of organic lead that may occur in those soils and estuarine sediments, already shown to have been impacted by fuel releases from SWMU 9, to which human and ecological receptors might be exposed.

Navy's July 9, 2010 Response to PREQB Evaluation of Response: As indicated in the previous response, the Navy does not believe it is appropriate to assume an organic lead concentration since there is no known information from the literature upon which to make an accurate estimation. Furthermore, current industry standard, and PREQB UST regulations use total lead (e.g., the PREQB UST regulation for total lead is 50 ppm in soil or water) as the standard for evaluating site contamination.

Page Specific Comments:

1. Evaluation of Response to PREQB Comment 2c, Page 4-2, Section 4.1. The procedure described in the response (i.e., shipping samples in a cooler packed with ice), is the procedure used for refrigerated samples, not frozen samples. Therefore, please clarify whether the samples were received at the laboratory in a frozen state.

Navy Response: It is not known if samples were received at the analytical laboratory in a frozen state as this information was not documented by the analytical laboratory.

Evaluation of Response: *There is a potential adverse effect to samples that are frozen in the field, allowed to thaw, and then frozen again in the laboratory. It appears that this may have happened with the low-level VOC samples. Once samples are frozen and allowed to thaw, they must be analyzed within 48 hours of thawing. Therefore, if the state of the samples upon receipt at the laboratory cannot be verified, please update the report to discuss the potential low bias of the VOC results for the low-level soil samples and the potential effect on the human health and ecological screening assessments performed.*

Navy's July 9, 2010 Response to PREQB Evaluation of Response: The Draft Report will be revised to include a discussion of the VOC sampling procedures and the useability of the resultant data.

2. *Evaluation of Response to PREQB Comment 15, Page 6-1, Section 6.1. Please include a discussion of the potential for soil contamination to be a continuing source of contamination to groundwater, as this should be part of a discussion of nature and extent of contamination.*

Navy Response: The Navy does not believe it is appropriate to compare subsurface soil analytical data to Protection of Groundwater SSLs since groundwater samples have been collected and additional groundwater samples will be collected from existing and new monitoring wells, thus allowing for a quantitative determination of groundwater quality. However, based on the soil and groundwater analytical data, soil contamination is likely a continuing source of contamination in groundwater. Section 6.1 will be revised to include a discussion of this link between soil and groundwater using actual analytical data (not Protection of Groundwater SSLs).

Evaluation of Response: *Current groundwater conditions are indicative of contaminants that have already migrated to groundwater. However, the Groundwater SSLs are used to evaluate whether contaminants in soil are present at concentrations that might result in continued impacts to groundwater in the future. Therefore, please conduct a comparison of subsurface soil concentrations to an appropriate Groundwater SSL, either site-specific or default, to evaluate the potential for on-going impacts to groundwater from contaminated soil.*

Navy's July 9, 2010 Response to PREQB Evaluation of Response: The Regional Screening Levels Table User's Guide (USEPA, May 2010), available at USEPA's website http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/usersguide.htm (accessed July 2010) indicates that the soil to groundwater "SSLs are either back-calculated from protective risk-based groundwater concentrations or based on MCLs. SSLs were designed for use during the early stages of a site evaluation when information about subsurface conditions may be limited. Because of this constraint, the equations used are based on conservative, simplifying assumptions about the release and transport of contaminants in the subsurface." Use of the soil to groundwater SSLs at SWMU 9 Area A/B at the Full RFI/CMS stage of investigation is not appropriate and will not result in additional information that may be used for risk management decision-making:

- SWMU 9 Area A/B is not characterized by the statement "early stages of a site evaluation when information about subsurface conditions may be limited." A relatively large amount of soil and groundwater data has already been collected at SWMU 9 Area B, Tank 214 Area; in fact, the nature and extent of contamination over a large portion of the site has already been delineated.
- Quantitative soil and groundwater data from completed and proposed site investigations will be used to assess the extent of site soil and groundwater contamination. This is a more accurate approach than to rely on generic SSLs to infer the locations of potential contamination.

- Quantitative human health risk evaluations will be conducted using site specific inputs rather than relying on conservative, simplifying assumptions.

The current Full RFI/CMS approach using quantitative data to make decisions regarding the extent of contamination or to assess site risks to human health and the environment is more appropriate for the RCRA action at SWMU 9 Area B, Tank 214 Area. However, as indicated in the previous response, Section 6.1 will be revised to include a discussion of the link between soil and groundwater using actual analytical data.

FIGURE 1
SCHEDULE FOR ADDITIONAL INVESTIGATION AND PREPARING FULL RFI REPORT
SWMU 9 AREA B - TANK 214 AREA
NAVAL ACTIVITY PUERTO RICO

