Baker Environmental, Inc.
A Unit of Michael Baker Corporation

Airside Business Park
100 Airside Drive
Moon Township, PA 15108

July 30, 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)
Revised Final II Summary Report for Environmental Background Concentrations
of Inorganic Compounds at Naval Activity Puerto Rico
RCRA/HSWA Permit No. PR2170027203

Dear Mr. Everett:

Baker Environmental, Inc. (Baker), on behalf of the Navy, is pleased to provide you with one copy of the replacement pages for the revised Addendum C (Freshwater Drainage Ditch Sediment) of the Revised Final II Summary Report for Environmental Background Concentrations of Inorganic Compounds at Naval Activity Puerto Rico, dated February 29, 2008. Addendum C has been revised to include a background freshwater drainage ditch sediment data set for use in base-wide (i.e., non-airfield) SWMU investigations. Directions for inserting the revised text and tables into the Addendum C (submitted January 6, 2010) of the Revised Final II Summary Report for Environmental Background Concentrations of Inorganic Compounds at Naval Activity Puerto Rico are provided for your use. Also included with the revised addendum inserts is one electronic copy provided on CD of the entire Revised Final II Summary Report for Environmental Background Concentrations of Inorganic Compounds at Naval Activity Puerto Rico, which includes the addition of the revised Addendum C.

This document is being submitted in accordance with the EPA comments dated May 21, 2010. 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,

BAKER ENVIRONMENTAL, INC.

Mark E. Kimes, P.E.
Activity Manager

MEK/lp
Attachments

cc: Ms. Debra Evans-Ripley, BRAC PMO SE (letter only)
Mr. David Criswell, BRAC PMO SE (letter only)
Mr. Mark Davidson, BRAC PMO SE (1 hard copy and 1 CD)
Ms. Bonnie Capito, NAVFAC Atlantic– Code EV42 (1 hard copy of revised pages for AR)
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 CD)
Mr. Jonathan Flewelling, TechLaw Inc. (1 CD)
Ms. Gloria Toro, PREQB (1 hard copy and 1 CD)
Ms. Wilmarie Rivera, PREQB (1CD)

NAVY'S APRIL 2010 RESPONSES TO EPA'S MARCH 2010 COMMENTS

ADDENDUM B (AIRFIELD BACKGROUND SOIL) AND ADDENDUM C (FRESHWATER DRAINAGE DITCH SEDIMENT) DATED JANUARY 2010 OF THE REVISED FINAL II SUMMARY REPORT FOR ENVIRONMENTAL BACKGROUND CONCENTRATIONS OF INORANIC COMPOUNDS DATED FEBRUARY 29, 2008

(EPA comments are provided in italics, while the Navy responses are provided in regular print)

Evaluation of the Response to EPA Comment 1: *The response is partially adequate. The response states, "… those chemicals at or below background levels (non-site related) will be discussed as part of the risk characterization and then exit the risk assessment process." Clarification is required. It should be noted that risk and hazard should be quantified for inorganic compounds that are detected above risk-based screening criteria regardless of background concentrations. To be clear, it is necessary to quantify risk and hazard for all compounds exceeding risk-based criteria (i.e., chemicals of potential concern (COPCs)). The risk characterization should then discuss the quantitative assessment of these COPCs, inclusive of inorganic COPCs detected at or below respective background levels. Subsequently, these inorganic COPCs that were detected at or below background, should then be further addressed in the uncertainty analysis. Specifically, the uncertainty analysis should present a refinement of the total site risk by segregating residual (site-related) risk and background risk from the total. It is important that the uncertainty analysis breaks down the total site risk so that is clear how much of the total site risk is likely attributable to background. Ensure that this methodology is followed for any human health risk assessment (HHRAs) conducted at NAPR.*

Navy response: Currently, in HHRAs conducted for NAPR all chemicals detected above risk-based screening criteria, regardless of whether those chemicals are at or below background, are retained as COPCs and evaluated quantitatively as part of the total baseline HHRA. As part of the risk characterization, site-specific concentrations of COPCs determined to be below background are compared with their respective background levels and discussion is provided such that the impact of background to total site risk calculated for the SWMU under evaluation is apparent. Those COPCs demonstrated to be at or below background levels then exit the risk assessment process. This approach is consistent with *U.S. Navy Human Health Risk Assessment Guidance* (available at http://www-nmcphc.med.navy.mil/downloads/ep/Chapters%201-12.pdf).

The Navy does agree that presenting a refinement of total site risk would supplement the HHRA process. However, in addition to addressing the contribution of background to risk as part of the uncertainty analysis, contribution of risks from those chemicals at or below background levels (non-site related) will be discussed as part of the risk characterization. A refinement of the total "site" risk will be presented, where the term "site" refers to the SWMU under evaluation. In other words, risk and hazard presented from background constituents will be segregated from site-related risk for the SWMU under evaluation. It is important to present this refinement as part of the risk characterization because those chemicals whose SWMU-specific concentrations and associated risk/hazard are attributable to background will then exit the risk assessment process, which is consistent with *U.S. Navy Human Health Risk Assessment Guidance*.

Evaluation of the Response to EPA Comment 4: *The response is not adequate. The purpose of the recent background sampling events was to establish background levels for the airfield only. It is acknowledged that a site-wide background freshwater drainage ditch sediment data set has not been established at NAPR (though two background sediment data sets do exist; estuarine wetland background sediment and open water background sediment). If the Navy wishes to use the airfield background freshwater drainage ditch sediment data for site-wide comparisons, the following must be addressed:*

- *Clarify whether all 20 of the airfield samples would be used in the site-wide data set, or just the eight (8) samples noted in the Navy's response to EPA Comment 4 (i.e., 56SD06, 56SD07, FWDBKG-03, FWDBKG-04, FWDBKG-SD08, FWDBKG-SD09, FWDBKG-SD17, and FWDBKG-SD18). In addition, provide the complete decision rationale for the selection of these samples.*

  Navy Response: A conference call was held on July 1, 2010 between the USEPA, TechLaw, the Navy, and Baker. The outcome of the discussion was that all parties agreed that a portion of the freshwater drainage ditch sediment data would be suitable for use as a base-wide background drainage ditch sediment data set. Specifically, 56SD06, 56SD07, FWDBKG-03, FWDBKG-SD08, FWDBKG-SD09, FWDBKG-SD17, and FWDBKG-SD18 were selected as freshwater drainage ditch sediment samples representative of background conditions base-wide. The justification for selecting these samples is as follows. The samples were collected from drainage ditches that originate outside of the airfield fence line (i.e., 56SD06, 56SD07, FWDBKG-03, FWDBKG-SD17, FWDBKG-SD18) or at locations within a drainage ditch that are not influenced by off-base or on-base anthropogenic sources (FWDBKG-SD08 and FWDBKG-SD09). Addendum C will be revised to reflect this approach.

- *Propose additional background freshwater drainage ditch sediment sampling locations across NAPR for use in the site-wide data set, or justify why additional background sampling of this medium is not necessary. In this justification, explain why samples for establishing background concentrations in surface soils, subsurface soils, estuarine wetland sediment and open water sediment were collected from across the entire site (Figures 2-1, 3-1, 3-2, 3-3, 4-1, 5-2, and 5-3), while site-wide background freshwater drainage ditch sediment data are represented by the airfield data only.*

  Navy Response: It was also agreed upon during the July 1, 2010 conference call that the seven airfield samples (specifically, 56SD06, 56SD07, FWDBKG-03, FWDBKG-SD08, FWDBKG-SD09, FWDBKG-SD17, and FWDBKG-SD18) would provide the foundation for a base-wide background freshwater drainage ditch sediment data set that will be enhanced with additional background sediment samples collected from freshwater drainage ditches outside the airfield. That is, as field investigations are conducted at SWMUs located outside the airfield, SWMU-specific sediment reference samples collected from freshwater drainage ditches (as applicable to each SWMU) will be incorporated with the original seven samples to supplement the base-wide background freshwater drainage ditch sediment data set. In this way, the non-airfield background drainage ditch sediment data set will be populated with analytical data from samples collected base-wide. Addendum C will be revised to reflect this approach.

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