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September 26, 2001

U. S. Environmental Protection Agency- Region II
290 Broadway - 22nd Floor
New York, NY 10007-1866Attn: Mr. Timothy Gordon
Acting Chief, RCRA Caribbean SectionRe: Contract N62470-95-D-6007
Navy CLEAN, District III
Contract Task Order (CTO) 0034
U.S. Naval Station, Roosevelt Roads (NSRR), Puerto Rico
Response to EPA Comments dated August 8, 2001
Final Work Plan for Additional Data Collection Tow Way Fuel Farm
RCRA/HSWA Permit No. PR2170027203

Dear Mr. Gordon:

Baker Environmental, Inc. (Baker), on behalf of the Navy, is providing you with the Navy's Response to EPA's Comment Letter dated August 8, 2001 regarding the Draft Final Additional Data Collection Work Plan Tow Way Fuel Farm. This document has been revised in accordance with communications between your office and Mr. Kevin Cloe as detailed in the response. Two copies of the Final Work Plan for Additional Data Collection Tow Way Fuel Farm is attached for your review in accordance with your letter dated August 8, 2001. Additional distribution of the Response to EPA Comments dated August 8, 2001, and the Final Work Plan for Additional Data Collection Tow Way Fuel Farm has been made as indicated below.

Please note that the schedule provided in the Final Work Plan has been revised to reflect your review and subsequent approval of this Final Work Plan. This revised schedule assumes 21 days for your review, which pushes the completion of the field investigation to November 19, 2001. Naval Station Roosevelt Roads have informed Baker that a minimum two-week advanced notice is necessary to obtain security clearances for the subcontractors. Due to these new demands for increased security, an expedited verbal approval of the Work Plan would be greatly appreciated in order to kick off the field work as soon as possible.

If you have any questions regarding this submittal, please contact either me at (412) 269-2009 or Mr. Kevin Cloe at (757) 322-4736.

Sincerely,

BAKER ENVIRONMENTAL, INC.

Mark E. Kimes, P.E.
Activity CoordinatorMEK/lp
Attachmentscc: Mr. Kevin R. Cloe, LANTDIV - Code EV23KRC (3 copies)
Ms. Madeline Rivera, NSRR (4 copies)
Mr. Carl Soderberg, US EPA Caribbean Office (1 copy)
Ms. Kathy Rogovin, Booz Allen & Hamilton (1 copy)
Mr. Mace Barron, Booz Allen & Hamilton (1 copy)
Dr. Gladys M. Gonzalez, PREQB (2 copies)
Mr. John Tomik, CH2M Hill Virginia Beach (1 copy)

**NAVY RESPONSE TO EPA COMMENTS
DATED AUGUST 8, 2001 ON THE
DRAFT FINAL ADDITIONAL DATA COLLECTION WORK PLAN
TOW WAY FUEL FARM DATED JULY 6, 2001**

EPA Comment No. 1

The most significant comment concerns that absence of any proposal for, or discussion of an Ecological Risk Assessment, or additional data requirements for conducting an ERA. The "Where Do We Go From Here" document submitted as part of the minutes for the May 23, 2001 EPA/Navy conference call indicated that "The work plan will explain how the Ecological Risk Assessment will be conducted." Rather than delaying implementation of the additional data gathering proposed in the work plan, EPA requests that within 45 days of your receipt of this letter, the Navy submit a proposal for implementing an Ecological Risk Assessment (ERA) of the contaminant impacts from SWMU #7/8 (Tow Way Fuel Farm), including a proposal for any additional data collection needed to implement such an ERA.

Navy Response to EPA Comment No. 1:

An ERA Work Plan, similar to those developed for SWMUs 1 and 2, SWMU 45, and SWMU 9, was developed and added as Appendix C to the approved Work Plan for Additional Data Collection for the TWFF. Any additional data gathering needs required for the ERA were also added into the Final Work Plan. The Navy requests that the additional data gathering not to proceed until these additions to the Work Plan are reviewed and approved by the EPA.

EPA Comment No. 2

Subject to the Navy complying with the above regarding an ERA proposal, and subject to the Navy, in implementing the July 6, 2001 Additional Data Collection Work plan, complying with the requirements given in the enclosed Technical Review, EPA approves the Additional Data Collection Work plan for SWMUs #7 and 8 (Tow Way Fuel Farm). As per the schedule given in Figure 5-1 of the Work plan, the data collection is scheduled to be completed by November 2, 2001. If a slippage in that schedule should occur, please promptly advise me in writing of the revised data collection schedule.

Navy Response to EPA Comment No. 2:

Due to the additional data requests in EPA Comment No. 1 the schedule will be delayed dependent on how long the EPA review/approval of the Final Work Plan takes. The Navy was prepared to submit the Final Work Plan to the EPA on September 14, 2001 in attempt to complete the fieldwork by November 2, 2001. Due to the unfortunate national tragedy of September 11, 2001 and subsequent evacuation of EPA Region II Headquarters, the Navy was unable to submit the Final Work Plan to the EPA office on September 14, 2001 for review. The revised schedule in the Final Work Plan reflects a 21-day period for the EPA to review and approve the Final Work Plan. This review period would only delay the schedule by approximately 2 ½ weeks. Although it should be noted that the sooner the EPA completes its review and approves the document the sooner the fieldwork can be implemented. The Navy does ask if the EPA can provide a verbal approval prior to the official letter, this would enable the Navy time to get all the support subcontractors in place to begin the field work as soon as possible.

BAH General Comment No. 1

1. *The review of the July 6, 2001 Draft Final Work Plan for Additional Data Collection (Work Plan) at the Tow Way Fuel Farm (TWFF) for Naval Station Roosevelt Roads (NSRR) focused on evaluating the appropriateness of the proposed sampling and analysis program as well as determining the adequacy of the proposed locations for the installation of additional monitoring wells. With the exception of the issues identified in the following specific comments, the sampling and analysis program, including the new wells planned for installation that are proposed in the Work Plan, appears to address previously identified data gaps. However, there is the potential that an analysis of the data collected during the planned investigation activities or analysis resulting from the ongoing modeling effort may identify additional data gaps that require further investigation. Thus, additional investigations may be warranted in the future.*

Navy Response to BAH General Comment No. 1:

Comment Noted.

BAH General Comment No. 2

2. *NSRR's June 25, 2001 document entitled Where Do We Go From Here, which was submitted with the May 23, 2001 Revised TWFF Conceptual Groundwater Model conference call meeting minutes, indicates that the Work Plan will explain how the ecological risk assessment will be conducted. However, no discussion of the ecological risk assessment is included in the Work Plan. The Work Plan should be revised to provide the details of the planned ecological risk assessment or provisions should be made for a supplemental submission that provides the details the ecological risk assessment planned for the site.*

Navy Response to BAH General Comment No. 2:

An ERA Work Plan, similar to those developed for SWMUs 1 and 2, SWMU 45, and SWMU 9, was developed and added as Appendix C to the approved Work Plan for Additional Data Collection for the TWFF.

BAH Specific Comment No. 1

Section 3.1 Groundwater Sampling and Analysis Program, page 4.

1. *The Work Plan (pg. 5) indicates that samples for dissolved lead will be obtained from all monitoring wells south of Forrestal Drive. For the purposes of risk assessment, EPA generally requires an analysis of groundwater samples for total metals. Consequently, total lead should be included for groundwater analysis in the Work Plan. Additionally, the Work Plan does not clearly indicate if the analyses planned for other metals include total metals. If other metals are going to be used for the assessment of risk, then an analysis for total should also be included in the parameter list. NSRR should revise the Work Plan accordingly.*

Navy Response to BAH Specific Comment No. 1:

As presented in the first paragraph of Section 3.1, as well as Appendix A (Sample Matrix) of the Final Work Plan, the groundwater samples collected from 36 monitor wells located at SWMU 7/8 will be analyzed for both the full Appendix IX Total and Dissolved Metals. The text in the Final Work Plan has been revised to make this point more evident.

BAH Specific Comment No. 2

2. *The Work Plan (pg. 5) indicates that additional sampling and analysis of four monitor wells will be conducted near Zone 4 to assist in determining the natural attenuation parameters associated with the trichloroethylene (TCE) plume. Table 3-2, which identifies the additional sampling and analysis parameters for these four monitoring wells, includes all the natural attenuation parameters recommended for monitoring in the area of the TCE plume in the April 27, 2001 Conceptual Model Development document (Section 5.3), with the exception of chloride. The Conceptual Model Development document indicated that chloride should be measured in the area of the plume and compared to the chloride in areas outside the plume. Thus, chloride should be added to the parameters specified in Table 3-2, unless adequate justification can be provided for eliminating chloride as a parameter. NSRR should revise the Work Plan accordingly.*

Navy Response to BAH Specific Comment No. 2:

It was determined, by re-evaluation of chloride data obtained from previous investigations, that chloride was significantly high in all wells near the Zone 4 area. Because of the existence of high levels of chloride in wells near the ocean, further analysis to determine minute incremental increases would not be successful due to masking by already present high levels of chloride. In addition, chloride is only useful if it can be measured at twice the level of background. Therefore, chloride was dropped from the list of parameters to be analyzed in the Final Work Plan.

BAH Specific Comment No. 3

3. *The Work Plan (pg. 5) indicates that a groundwater sample will be collected and analyzed even if phase separated hydrocarbon (PSH) is encountered in the well, as sampling groundwater in wells with PSH assists in determining the partitioning of PSH to groundwater. The Work Plan (pg. 6) also indicates that groundwater samples will be collected using EPA Region 2 low flow sampling technique. EPA Region 2 low flow sampling technique however, may not provide optimal samples for determining the amount of hydrocarbon dissolved in the groundwater immediately adjacent to the PSH layer, and the Work Plan does not identify special procedures for collecting groundwater samples from wells containing PSH. Consideration should be given to modifying the EPA procedure so as to minimize the entrainment of PSH while lowering the sampling equipment through the PSH layer and to minimize the potential of inadvertently sampling the PSH layer. Lowering the sampling equipment through a temporary, small-diameter casing placed across the PSH layer may help isolate the equipment and prevent entrainment of PSH into the underlying groundwater. Modification of the low flow sampling protocol may also be necessary to ensure placement of the pump intake at a sufficient distance below the PSH layer and to ensure that the layer is not drawn down to the pump intake during purging and sampling.*

NSRR should provide specific details on how groundwater sampling will be performed in the presence of PSH.

Navy Response to BAH Specific Comment No. 3:

In cases where an LNAPL has been detected in the monitoring well, a stilling tube will be inserted into the well prior to well purging. The stilling tube will be a one-inch PVC tube with aluminum foil fastened firmly at the bottom. The stilling tube is lowered slowly into the well to the appropriate depth and then attached firmly to the top of the well casing. When the peristaltic pump drop tube is inserted, the weight of the tube breaks the foil covering the end of the stilling tube, and the well can be purged and sampled from below the LNAPL layer. Section 3.1 of the text was modified to reflect this technique from the RCRA Groundwater Monitoring: Draft Technical Guidance USEPA, 1993.

BAH Specific Comment No. 4:

Section 3.4 PSH Fingerprinting, page 12.

4. *The Work Plan (pg. 12) indicates that representative samples of PSH will be collected from Zones 1, 2, and 3 for fingerprinting analysis. In addition, the Work Plan indicates that the sample will be analyzed for dynamic viscosity. However, the Work Plan does not indicate that the PSH samples will be analyzed for density and Henry's Law constants. These additional analyses were recommended in NSRR's April 27, 2001 Conceptual Model Development document (Section 5.2). In addition, NSRR's June 25, 2001 document entitled Where Do We Go From Here, also indicates that light non-aqueous phase liquid (LNAPL) densities would be measured. The analysis of PSH samples for density and Henry's Law constants should be included in the Work Plan.*

Navy Response to BAH Specific Comment No. 3:

Analysis to determine Henry's Law constant for the PSH in the three zones is not necessary since the modeling will be conducted using individual constituents of which the Henry's Law constants are already known. Therefore, Henry's Law constants for PSH have been removed from the parameters to be analyzed in the Final Work Plan. The density of the PSH was added to the parameter list (Appendix A.3 Phase Separated Hydrocarbon Sample Matrix) in the Final Work Plan.

BAH Specific Comment No. 4 (cont.)

The April 27, 2001 Conceptual Model Development document (Section 3.2.3) similarly indicated that because of the potentially high salinity of groundwater in some areas of the TWFF, groundwater densities should be obtained in the upcoming field event. In combination with the LNAPL density data, this additional data would be used to help more accurately correct water table elevations measured in monitoring wells containing PSH. The Work Plan does not appear to include the measurement of groundwater density. This measurement should be added to the Work Plan.

Navy Response to BAH Specific Comment No. 4 (cont.):

Groundwater density was added to the parameter list (Appendix A.1 Sample Matrix) for six of the proposed monitor wells to be sampled for groundwater. These monitor wells were chosen based on their location within the SWMU 7/8 area. Two locations were chosen in the upper TWFF, two in the central portion of the TWFF, and two south of Forrestal Drive. These specific locations will help to determine the areal distribution of groundwater density within the SWMU 7/8 area.

BAH Specific Comment No. 5:

Table 3-1. Groundwater Laboratory Analytical Methods

5. *Table 3-1 identifies the proposed parameters and constituents for groundwater analysis. In NSRR's June 25, 2001 document entitled Where Do We Go From Here, NSRR indicates that Mn⁺² will be included as a parameter for monitored natural attenuation (MNA). However, this parameter was not included in Table 3-1. Unless NSRR can provide adequate justification for eliminating Mn⁺² for analysis in the Work Plan, this parameter should be included in the general MNA parameter list, and Table 3-1 should be revised accordingly.*

Navy Response to BAH Specific Comment No. 5:

Upon further investigation, it was determined that the laboratory analysis for Mn⁺² would be suspect due to the rapid oxidization of the sample prior to analysis. Therefore, field analysis for Mn⁺² was investigated as an alternative to laboratory analysis. However, no field analysis kits for Mn⁺² (i.e. Hach Test Kit) was identified, so analysis of Mn⁺² was removed from the MNA parameter list.