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JUN 10 2003

**CERTIFIED MAIL**  
**RETURN RECEIPT REQUESTED**

Mr. Kevin Cloe  
Navy Technical Representative  
Installation Restoration Section (South)  
Environmental Program Branch  
Environmental Division,  
Atlantic Division (LANTDIV), Code EV23KC  
Naval Facilities Engineering Command  
1510 Gilbert Street  
Norfolk, VA 23511-2699

Re: Naval Station Roosevelt Roads - EPA I.D. Number PRD2170027203

1. Revisions of April 22 and May 23, 2003 to Corrective Measures Study Task 1 Report for Tow Way Fuel Farm (SWMU 7 & 8)
2. Draft Trichlorethene (TCE) Plume Source Delineation Work Plan for Tow Way Fuel Farm
3. Addendum to the Screening Level Ecological Risk Assessment (SLERA) and Exposure Estimate Report for SWMUs 1 & 2
4. Addendum to the Screening Level Ecological Risk Assessment (SLERA) and Exposure Estimate Report for SWMU 45

Dear Mr. Cloe:

The United States Environmental Protection Agency (EPA) Region 2 **has** completed its review of the above four documents which **were** submitted on behalf of the Navy by Baker Environmental's letters of April 22 and May 23, 2003, and May **8**, May 14, and May 22, 2003, respectively. As part of its review, EPA requested our contractor, Booz-Allen Hamilton, to review the above 4 documents.

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**Fuel Farm**

EPA has found that the revisions to the CMS Task I report submitted with Baker Environmental's letters of April 22 and May 23, 2003 are acceptable, as modified by the revisions submitted May 23, 2003. Therefore, the CMS Task I Report, dated July 9, 2002, as modified by the submissions of January 3, 2003, April 22, 2003, and May 23, 2003, is now approved. With the CMS Task I Report now complete, please proceed to complete all remaining CMS tasks for Tow Way Fuel Farm, and submit the draft Final CMS report within forty-five days of completion of all CMS tasks.

**Draft TCE Plume Source Delineation Work Plan for Tow Way Fuel Farm**

As discussed in the enclosed Technical Review prepared by Booz Allen, several items in the May 8, 2003 TCE work plan need clarified and/or revised. Within 25 days of your receipt of this letter, please submit revisions to the TCE work plan to address comments given in the enclosed Technical Review.

**Addendum to the Screening Level Ecological Risk Assessments (SLERA)  
I Exposure i t Reports for SWMU: 1 & 2 and SWMU 45**

These two documents were submitted on May 14 and 22, 2003 to address EPA's October 4, 2001 comments on the [original] August 10, 2001 SCLERA reports for SWMUs 1 & 2 and SWMU 45. Because of funding constraints, as discussed in the Navy's letter of November 28, 2001, the Navy was not able to develop revised SCLERA reports until recently.

EPA has found the May 14 and May 22, 2003 Addendums to the SCLERA and Exposure Estimate Reports for SWMUs 1 & 2 and SWMU 45, respectively, to be acceptable, except for one item. In Tables 6-8 of both those documents, the "lowest observed adverse effect levels" (LOAELs) should not be used in assessing risks to the manatee, because it is a special status species. Rather, only the "no observed adverse effects levels" (NOAELs) should be used in assessing risks to the manatee.

EPA will approve the August 10, 2001 Screening Level Ecological Risk Assessment (SLERA) and Exposure Estimate Reports for SWMUs 1 & 2, and SWMU 45, as modified by the Addendums submitted respectively on May 14 and May 22, 2003. However, this approval is contingent on the Navy using only the NOAELs for evaluating risks to the manatee in the baseline risk assessment and the draft final Ecological Risk Assessment (ERA) reports for SWMUs 1 & 2 and SWMU 45, which remain to be completed as part of the Corrective Measure Studies (CMSs) for those three SWMUs.

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

Sincerely,



Timothy R. Gordon  
Remedial Project Manager  
Caribbean Section  
RCRA Programs Branch

Enclosure

cc: Mr. Julio I. Rodriguez Colon, Attn. Mr. Efrain Camis Rosado, PREQB w/encl.  
**Ms.** Madeline Rivera, Naval Station Roosevelt Roads w/encl  
Ms. Kathy Rogovin, Booz Allen & Hamilton w/o encl.  
Mr. Mark Kimes, Baker Environmental w/encl.

**TECHNICAL REVIEW OF THE MAY 8, 2003  
TCE PLUME SOURCE  
DELINEATION WORK PLAN FOR  
TOW WAY FUEL FARM**

**NAVAL STATION ROOSEVELT ROADS  
CEIBA, PUERTO RICO**

**REPA3-0203-014**

**June 6, 2003**

**I GENERAL COMMENTS**

1. The May 2003 Trichloroethene (TCE) Plume Source Delineation Work Plan (Work Plan) repeatedly refers to the installation of a compliance well. However, the context for the term 'compliance' is not explained. No final remedy has been selected for which a point of compliance has been established. It appears that the term is being used to identify the downgradient well location at the leading edge of the plume where the concentrations of contaminants meet the Federal maximum contaminant levels (MCLs). The identification of a specific well as the compliance well should be fully explained. It may prove more appropriate to use different language to identify this well.
2. Chemical analysis of soil and groundwater samples have been limited to a modified target compound list (TCL) of volatile organic compounds (VOCs) consisting of TCE and its potential daughter products, cis-1,2-dichloroethene (DCE), trans-1,2-DCE, 1,1-DCE, and vinyl chloride. Proper justification for limiting the analyte list in this manner has not been provided in the Work Plan. While TCE may be the predominant contaminant, TCE is frequently found with other chlorinated solvents due to impurities or the mixing of several solvents common in commercial solvent solutions. Those additional chlorinated solvents most frequently found in TCE solutions include tetrachloroethene (PCE) and trichloroethane (TCA) and its associated daughter products.

Examination of the data previously reported in the 2000 Final TCE Investigation Report for SWMU 7/8 appears to support a conclusion that only TCE and its potential daughter products are present. However, these data have not been cited and discussed in the Work Plan in support of the decision to limit the analyte list. Moreover, as evidenced by the large increase in TCE contamination that has recently been observed, the characteristics of the previously observed release appear to have changed. It has not been clearly demonstrated that other chlorinated solvent constituents are not currently present.

The Work Plan should be revised to clearly justify the selection of constituents for which analyses will be performed. It also appears that, to ensure that TCE and its daughter products remain the primary contaminants of concern, a minimum of one round of sampling and analysis using a more complete chlorinated solvent analyte list should be

undertaken using the expanded monitoring network that will be available after completion of this work plan.

3. The Work Plan (pp 3-4) indicates that temporary monitoring wells will be installed at the bottom of the water-bearing zone. When discussing the installation of the permanent wells, the Work Plan (pp 3-6) also indicates that, "the purpose of these new wells will be to obtain representative groundwater samples from a dissolved TCE plume, and as such, the screens will be located to obtain representative TCE plume concentrations (i.e., well screens will be set at the bottom of the boring on the competent bedrock)." Although the text of the Work Plan does not clearly indicate if the permanent monitoring wells will be installed at the same locations (i.e., in the same borings) as the temporary wells, Figure 3-1 appears to indicate that the permanent monitoring wells will not be collocated with the temporary wells.

The depth at which groundwater samples are taken from either temporary or permanent monitoring wells can be very important to adequately characterize the contaminant plume, including peak concentrations in that plume. The data obtained during the previous TCE delineation efforts from multi-well locations have clearly indicated that the precise depth of sampling can significantly influence the measured concentrations. For example, at TW-C, the measured concentrations of TCE were 25 ug/l and 1500 ug/l in the shallow and deep wells, respectively (see Figure 2-5). This is in spite of the fact that five-foot screens were used in both wells and the shallow screen was installed immediately above the deep screen. Thus, the significant difference in concentrations observed at this location occurred over a ten foot sampling interval. Moreover, the depiction of the screen depths for TW-C in Figure 2-2 appears to indicate that the deep well is screened below the water bearing zone as shown on this figure. In addition, both wells appeared to be installed below the top of the hard bedrock, which could easily be viewed as installed below competent bedrock. In addition, if the screen depths depicted in Figures 2-2 and 2-3 are further examined, it appears that this situation is common. Many of the previously installed temporary and/or permanent wells were either screened below the water bearing zone or below the level of competent bedrock, or both.

Thus, it would appear that the criteria established in the Work Plan for establishing screen depths is not consistent with the criteria previously used and may not allow the collection of groundwater quality data suitable for characterizing the nature and extent of contamination. A more detailed and carefully planned approach to determining groundwater sampling depths appears necessary. It may be necessary to sample at multiple depths at each location during the initial phases of the investigation until the pattern of contaminant migration is clearly examined.