

**Baker**

7/19/96-01187

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July 19, 1996

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Commander  
Atlantic Division  
Naval Facilities Engineering Command  
1510 Gilbert Street (Building N-26)  
Norfolk, Virginia 23511-2699

Attn: Mr. David Forsythe  
Code 18224

Re: Contract N62470-89-D-4814  
Navy CLEAN, District III  
Contract Task Order (CTO) 0353  
Revised Final Project Plans  
Camp Allen Salvage Yard  
Naval Base, Norfolk, Virginia

Dear Mr. Forsythe:

Baker Environmental, Inc. (Baker) is pleased to submit two (2) copies of the Revised Final Project Plans for the Remedial Investigation/Feasibility Study (RI/FS) at the Camp Allen Salvage Yard, Naval Base, Norfolk, Virginia. Baker has incorporated the review comments received from the U.S. EPA into the Revised Final Project Plans. The U.S. EPA comments and their associated responses are attached.

As requested, one (1) copy of the Project Plans has been forwarded to Ms. Dianne Bailey at Naval Base, Norfolk. One (1) copy of this document has also been sent to Mr. Harry Harbold at EPA Region III and to Mr. Steve Mihalko at the Virginia Department of Environmental Quality (DEQ).

Baker appreciates the opportunity to provide continued technical support to LANTDIV on this important project. Should you have any questions or comments, please do not hesitate to contact me at (412) 269-2026 or Mr. Gordon Ruggaber at (412) 269-4697.

Sincerely,

BAKER ENVIRONMENTAL, INC.



David J. Mamrose, P.E.  
Project Manager

DJM/lq

Enclosures

Attachment - U.S. EPA Review Comments and Responses

cc: Ms. Lee Anne Rapp, Code 18312 (letter only)  
Ms. Dianne Bailey, COMNAVBASE Code N-42B (one copy)  
Mr. Harry Harbold, EPA Region III (one copy)  
Mr. Steve Mihalko, Virginia DEQ (one copy)

**ATTACHMENT  
USEPA REVIEW COMMENTS  
CAMP ALLEN SALVAGE YARD  
CONTRACT TASK ORDER 0353**

**General Comments**

**Comment:** The investigation does not address contamination of indoor building surfaces at the Salvage Yard, in particular Building CA-193 where PCB contamination occurred. The PA/SI report recommended additional investigation of the buildings at the Salvage Yard.

**Response:** Building CA-193 was demolished in 1995 during the decommissioning of the Camp Allen Salvage Yard (CASY). To address concerns over the presence of polychlorinated biphenyls (PCBs), one soil sample (2SB-12) is proposed for the area.

**Comment:** Investigation of groundwater contamination in the deeper Yorktown Aquifer appears to be limited. Since the deeper groundwater was impacted by organic and inorganic contaminants at the nearby Camp Allen Landfill, and several chemical spills and releases have been documented at the salvage yard, it would appear there is potential for contamination of the deeper aquifer from the vicinity of the salvage yard.

**Response:** The extent of contamination in the Yorktown Aquifer has been adequately addressed during previous environmental investigations conducted in the Camp Allen area. As discussed in the Final RI Report (Baker, July 1994), groundwater samples were collected from several monitoring wells located in the immediate vicinity of the CASY and installed within the Yorktown Aquifer. These wells, sampled in June and December 1992, indicated contamination in the Yorktown Aquifer in Areas A and B. Monitoring well BMW-8B, installed within the CASY, did not have volatile, semivolatile, pesticide, or PCB contamination detected in either sampling event.

To evaluate present site conditions, monitoring well BMW-8B, installed within the CASY, will be sampled during the CASY RI field program. The sampling of this well will aid in evaluating potential changes in the Yorktown Aquifer since the last sampling event in 1992. If contamination is detected in well BMW-8B, or if significant contamination is detected in the shallow groundwater during the CASY RI field program, further assessment of the Yorktown Aquifer in this area will be considered.

**Comment:** The surface and subsurface soil sampling program is biased toward areas where materials were stored and/or releases may have occurred based on knowledge of past operating practices. While this approach has certain advantages, sampling using a grid based system would assist in assessing and characterizing the nature and extent of potential soil contamination by reducing the potential for data gaps should soil

removal or risk reduction be necessary. The use of a grid system in the approximately 400 by 400 ft RCRA storage area and Hazmat area may be considered more appropriate and provide more representative data to determine if contaminated soil is present.

**Response:** The previous preliminary assessment/site inspection (PA/SI) completed at the CASY collected two soil samples from the RCRA storage area located in the northern portion of the site. The proposed RI field program will collect surface and subsurface soil samples from five separate locations within this area. These five locations will be based on the results of a geophysical investigation which is intended to detect potential areas of contamination. Because the RI sampling locations will be located in areas of suspected contamination, the potential to detect contaminants present at the site is greater than utilizing the grid sampling method. Therefore, it is recommended that the designated sampling locations be retained.

### **Specific Comments**

#### **Section 3.3.3, Geoprobe Groundwater Sampling, page 3-4:**

**Comment:** The last sentence on page 3-4 states that "If necessary, evaluation of the groundwater contamination may extend slightly beyond the boundary of the CASY site." Extending groundwater sampling beyond the site boundary may be necessary to determine the full horizontal extent of groundwater contamination and may also assist in optimizing placement of the proposed monitoring wells.

**Response:** Laboratory analyses performed during the previous RI indicate limited shallow groundwater contamination in the CASY area. As reported in the Final Camp Allen Landfill RI Report (Baker 1994), only two of the shallow monitoring wells installed in the immediate vicinity of the CASY (GW-5 and A-MW11A) had detectable levels of volatile organic compounds (VOCs). Total VOCs detected in these two wells were 3.0  $\mu\text{g/L}$  and 71.0  $\mu\text{g/L}$ . Other wells located east of the CASY (in Area B) had higher levels of total VOCs detected, with a maximum of 2,671 detected in well B-MW11A, located 600 feet to the east of the CASY. A remediation system is currently under construction to address the shallow groundwater in the area east of the CASY.

The primary focus of the Geoprobe investigation is to evaluate shallow groundwater conditions within the CASY. If shallow groundwater contamination is detected in areas of the CASY which previously did not show signs of contamination, the Geoprobe investigation will evaluate the off-site areas.

**Comment:** The procedures presented for the collection of groundwater screening samples are acceptable. However, since only a limited number of VOCs are to be analyzed, EPA recommends that approximately 20% of the samples also be analyzed in the laboratory for the full VOC scan to check the accuracy of the field data and determine if other VOC contaminants of concern are present.

**Response:** As stated earlier, significant investigations of the shallow groundwater in the Camp Allen area have already been performed. The Geoprobe is intended for use as a screening method to evaluate possible groundwater contamination and for assistance in evaluating shallow well locations. Detailed analysis of the shallow groundwater is not necessary for this purpose. Confirmation of the Geoprobe results will be accomplished through off-site analysis of the monitoring well samples.

**Comment:** The plan should address QA/QC in general regarding the Geoprobe method, which might include calibration, spike sample analyses, and other methods to evaluate and calibrate the screening method to reduce the potential for generation of false-positive or other misleading data.

**Response:** The Geoprobe subcontractor will analyze field QA/QC samples as follows:

- Ambient air samples - two per day
- Analytical method blanks - one per day
- Continuing calibration check - one every five samples (20%)
- Field system blank - one per day
- Reagent blank - one per set of working standards
- Replicate samples - 10% of all samples

The ambient air samples are obtained on site by sampling the air immediately outside the mobile analytical laboratory and directly injecting it into the gas chromatograph (GC). Analytical method blanks are taken to determine if the analytical instrumentation is contaminated. These are performed by injecting carrier gas (nitrogen) into the GC with the sample syringe. Subsampling syringes are also checked in this fashion.

The injector port septa through which samples are injected into the GC are replaced daily to prevent possible gas leaks from the chromatographic column. All sampling and subsampling syringes are decontaminated after use and are not used again until they have been decontaminated by washing in anionic detergent and baking at 90° C.

Continuing calibration checks are analyzed to verify the detector response for the target VOCs. If the response changes by more than twenty percent, the GC is recalibrated and new response factors are calculated.

Field system blanks are analyzed to check for continuation of the sampling apparatus (e.g., probe and sampling syringe). System blanks of the probes are obtained by pouring VOC free water through the probe and collecting the water in a VOA vial. An indirect injection is then analyzed to determine if the probe is clean or contaminated.

If blanks detect compounds of interest at concentrations that indicate equipment contamination or concentrations that exceed normal background levels (ambient air

analysis), corrective actions are performed. If the problem cannot be corrected, an out-of-control event is documented and reported.

A reagent blank is analyzed to ensure the solvent used to dilute the stock standards is not contaminated. Analytical instruments are calibrated daily using fresh working standards made from National Institute of Sciences and Technology (NIST) traceable standards and reagent blanked solvents.

Quantitative precision is assured by replicating analysis of 10 percent of the groundwater samples. Replicate analyses are performed by subsampling headspace of the groundwater from the original VOA.

#### **Section 3.3.4, Monitoring Well Installation, Page 3-5:**

**Comment:** The location of the proposed monitoring wells appears to be determined without consideration of the regional groundwater flow regime. Will any other additional information be used in determining the placement of these wells?

Aquifer parameters should be determined after completion and development of these wells, either slug testing, step draw down, and/or pump testing should be proposed as well as the methods to be employed.

**Response:** As stated in the Work Plan, the proposed well locations, "may vary based upon the evaluation of the geophysical and Geoprobe results." (Sampling and Analysis Plan, page 3-7). The addition of the two proposed monitoring wells to the over 60 already existing monitoring wells installed in the Camp Allen area will provide sufficient information to evaluate groundwater flow and contaminant migration patterns.

Significant evaluation of the aquifer characteristics in the Camp Allen area has already been performed during earlier RI field programs (Baker, 1994). Evaluations of the aquifer characteristics in both the shallow water table aquifer and the Yorktown Aquifer (i.e., several slug tests and pumping tests) were necessary to design the groundwater remediation systems which are currently being constructed. Additional evaluations of the aquifer characteristics beneath the CASY are not necessary at this time.

#### **Section 3.3.6, Groundwater Sampling, Page 3-6:**

**Comment:** Please describe groundwater field parameters. These should include, at a minimum, pH, dissolved oxygen, conductivity, temperature, and turbidity. Consideration should also be made for sampling free floating films or product should these be encountered.

**Response:** Page 3-9 of the Sampling and Analysis Plan states that, "Specific conductance, pH, and temperature will be monitored and recorded throughout the purging process." The on-site testing of dissolved oxygen and turbidity will also be included with these

field parameters.

**Section 3.3.7, Surface Water/Sediment Sampling, Page 3-6:**

**Comment:** Four sediment samples will be collected from two drainage features. In addition to the analytical parameters specified, each sediment analysis should include total organic carbon and grain size to assist in interpreting the results of the chemical data.

**Response:** Total organic carbon and grain size will be included with the analytical parameters specified for the sediment samples.

**Comment:** Figure 3-1 does not indicate that the upgradient pond will be sampled. It is not clear if the pond will be sampled as part of the Camp Allen post-remediation monitoring program.

**Response:** The pond will not be sampled during the CASY RI. Sampling of this pond is being completed under a separate surface water investigation performed by CH2M Hill. This investigation is titled, "Post Remediation Ecological Monitoring at the Camp Allen Landfill."

**Comment:** Page 3-7 of the report states that the potential impact to the environmental receptors will be addressed by a project currently underway by CH2M Hill. EPA would like to be able to comment on this project and to know how the ecological risk assessment will be structured.

**Response:** LANTDIV and the Naval Base will keep the USEPA informed of the progress and results of the investigation.

**Draft Sampling and Analysis Plan, Section 3.4.9.2, Surface Water Sampling:**

**Comment:** This section needs to clarify that unfiltered surface water samples will also be analyzed.

**Response:** Page 3-7, Section 3.3.7. of the Work Plan specifies the analytical parameters which the surface water and sediment samples will be analyzed. This section also states that, "The surface water samples shall be analyzed for the same analytical parameters (as the sediment samples) but will also include the dissolved TAL metal fraction."

**Quality Assurance Project Plan**

**Comment:** Table 7-1, This table should provide detection limits for sediment samples, especially for inorganic constituents. Detection levels for sediment should be lower than BTAG screening levels so that a useful comparison between sediment concentrations and screening levels can be made.

**Response:** The quantitation limits shown in Table 7-1 for soil are also applicable for sediments. The detection limits for the TAL metals are, by protocol, given in terms of  $\mu\text{g/L}$ . Regardless of the published quantitation limits, Baker's laboratory subcontractor will report the lowest possible positive detections for both inorganic and organic constituents using the CLP protocol, which are typically much lower than the published quantitation limits.

### **References**

Baker Environmental, Inc., Final Camp Allen Landfill RI Report, July 1994.