



2/13/95-01833

OHM Remediation Services Corp.

February 13, 1995

Commander
Department of the Navy
Atlantic Division
Naval Facilities Engineering Command
Attn: Mr. David M. Forsythe, Remedial Project Manager, Code 18224
1510 Gilbert Street
Norfolk, Virginia 23511-2699

Re: Work Plan Addendum, Soil and Groundwater Remedial Action, Camp Allen Landfill, Areas A and B, Norfolk Naval Base, Norfolk, Virginia, LANTDIV Contract No. N62470-93-D-3032, Delivery Order 0008
OHM Project 15856.02.005.02

Dear Mr. Forsythe:

Enclosed is the revised Work Plan Addendum for the sampling of the deep extraction wells at the Camp Allen Landfill. This sampling activity will provide additional information on iron and alkalinity levels which exist in the upper Yorktown aquifer. This revised addendum incorporates the additional information and comments which resulted from the initial review and subsequent telephone conversation between OHM, the Navy, and Baker Environmental, Inc.. Upon approval, OHM will implement the proposed groundwater sampling activity.

The request to discharge water, generated during this sample round to the HRSD collection system, has been forwarded to Mr. Brian Lee. If you have any questions regarding the plan details please contact me at (609) 588-6450.

Very truly yours,

Richard A. Jasaitis, C.P.G.
Task Manager, Groundwater Collection

Enclosures

cc: G. Ruggabar, Baker Environmental
Theresa Thurlow, ROICC
LANTDIV Code 05
LANTDIV Code 04 - 2 copies
COMNAVBASE Code N4 - 2 copies
Project file

WORK PLAN ADDENDUM

REVISED WORK PLAN ADDENDUM FOR THE SAMPLING AND ANALYSIS OF DEEP EXTRACTION WELLS, SOIL AND GROUNDWATER REMEDIAL ACTION AREAS A AND B, CAMP ALLEN LANDFILL, NAVAL BASE NORFOLK, NORFOLK, VIRGINIA

INTRODUCTION AND OBJECTIVE

OHM Remediation Services Corp. (OHM) recently installed a series of groundwater extraction wells in Areas A and B of the Camp Allen Landfill at the Naval Base in Norfolk, Virginia. The wells were installed as part of the collection method for the groundwater remediation system. Subsequent phases of the remediation system include the final design and construction of a groundwater piping system, treatment system, and treatment building. Preliminary treatment design called for piping groundwater from all extraction wells in a common carrier pipe and treating the water collectively as one wastestream.

During OHM's analysis of the preliminary design, it was apparent that a majority of the extracted groundwater may not require treatment for all parameters originally specified in the preliminary design. Specifically, approximately 80% of the total volume of groundwater is anticipated to be extracted from the deeper wells screened in the Upper Yorktown aquifer. Existing analytical data suggests that the groundwater from this aquifer may not require treatment for metals. If this 80% of the groundwater volume is separately piped to the treatment system and allowed to by-pass the initial metals pretreatment process, the long-term benefit would be a substantial cost savings.

To evaluate the feasibility of implementing such a system, OHM proposes to collect one round of groundwater samples from the deeper, Upper Yorktown aquifer for laboratory analyses of total and dissolved iron, alkalinity, and pH.

Work proposed in this Work Plan Addendum will be performed in conjunction with previously submitted plans, including the site-specific Health and Safety Plan, Field Sampling and Analysis Plan, Environmental Protection Plan, and the original Operations Work Plan.

METHODOLOGY

Six 65-foot deep wells will be sampled. Each well is 6-inches in diameter. The locking well cap on each well will be removed, and the headspace of the well will be monitored with a photoionization detector (PID) to evaluate levels of protection to be used for health & safety purposes. Depth to water and depth to the bottom of the well will be measured and recorded, as well as the presence or absence of any free phase liquid. The water occupying the well bore will be evacuated at a flow rate of 10 gallons per minute (GPM) from each well using an electric submersible pump. Evacuated water will be treated with granular phase activated carbon and pumped to a tanker truck, which will be transported from well to well,

and finally discharged to an onsite nearby sanitary sewer manhole with Hampton Roads Sanitation District approval. Water quality during pumping will be monitored for temperature and pH, these parameters will also be recorded at sample times. Two pairs of samples will be collected from each well. One pair will be collected after approximately 30 minutes of pumping and the second pair will be collected after approximately 60 minutes of pumping. Following the evacuation of the required volume of water, the pump will be throttled back at each specified time to allow collection of the water samples.

For the iron analyses, a pair of samples will consist of one filtered and one unfiltered sample. A 45-micron in-line filter will be used in filling one of the sampling bottles. A second bottle will be filled from each well without the filter. Sampling by this method will provide both dissolved and total iron (EPA Method 236.2) results. Both of the samples will be preserved by adding concentrated nitric acid to the bottle until the pH is less than 2 units. In addition to the iron analyses, the alkalinity sample (EPA Method 310.1) for each set of samples will be taken and will not require preservation with nitric acid. Sample management protocols will follow the procedures described in the Field Sampling and Analysis Plan previously prepared for the Camp Allen Landfill Remedial Action.

This sampling process will be repeated for each of the six Upper Yorktown aquifer wells. All pumps and sampling equipment will be decontaminated prior to sampling and in between each well. The decontamination procedure will incorporate the following steps:

- Scrub with water and detergent (Alconox)
- Potable water rinse
- 10% nitric acid rinse
- Deionized water rinse
- Air dry

DELIVERABLES

OHM will submit a report detailing any deviations from the work plan, and a summary of the analytical results. The report will discuss the feasibility of implementing the proposed treatment plan.