O'BRIEN & GERE
ENGINEERS, INC

August 22, 1994

CERTIFIED MAIL, RETURN RECEIPT REQUESTED

Chief, Western New York Superfund
Section I
Emergency & Remedial Response Division
U.S. Environmental Protection Agency
26 Federal Plaza, Room 29-100
New York, NY 10278

Attn: Richardson Hill Road Landfill
Project Officer

Re: Richardson Hill Road Landfill
Administrative Order on Consent
Index No. II-CERCLA-70-205

File: 3729.031 #2

Gentlemen:

On behalf of the Respondents to the referenced order, Amphenol Corporation and AlliedSignal Inc., please find enclosed the Richardson Hill Road Municipal Landfill Site (RHRMLS) final Supplemental Remedial Investigation (SRI) Work Plan. This work plan has been modified to incorporate comments set forth in the USEPA's memorandum to Amphenol Corporation dated October 22, 1993 and our subsequent discussion with the USEPA.

As mutually agreed, the SRI has been scheduled to be initiated pending completion of field efforts associated with the Unilateral Administrative Order (UAO) (Index Number II CERCLA-93-217), currently being implemented at the site.

Two components of the SRI Work Plan, soil boring installation and surface soil sampling, discussed in Sections 2.02 and 2.03 of the revised SRI Work Plan, were able to be completed during implementation of UAO Work Plan I - Waste Oil Pit & Hot Spot Characterization and Emergency Response Action. All investigative work efforts were observed by an on-site USEPA representative. The results of the UAO Work Plan I investigations are presented in the Waste Oil Pit & Hot Spot Characterization Technical Memorandum/Final Report.

The SRI components yet to be completed included the bedrock DNAPL assessment, monitoring well installation, and bedrock ground water sampling.

We are prepared to schedule the remaining work efforts subsequent to receiving approval of the work plan from USEPA.

Should questions arise regarding the subjects discussed herein, scheduling, or the project in general, please feel free to contact Henry Mitchell of Amphenol Corporation at (607) 563-5940 or me.

Very truly yours,

O'BRIEN & GERE ENGINEERS, INC.

James T. Mickam, CPG
Vice President

TME:bdm/AMP031.5
Enclosure

cc: Sam Waldo (Amphenol Corporation)
Henry J. Mitchell (Amphenol Corporation)
Ronald Tramontano (NYSDOH)
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Plinio Perez (Amphenol Corporation)
Robert Ford (Allied Signal Inc.)
Gail Lehman (Allied Signal Inc.)

WORK PLAN

Supplemental Remedial Investigation

Richardson Hill Road Municipal Landfill Site
Sidney, New York

August 1994

Work Plan

Supplemental Remedial Investigation

Richardson Hill Road Municipal Landfill Site
Sidney, New York

August 1994

5000 Brittonfield Parkway
P.O. Box 4873
Syracuse, New York

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A In Situ Hydraulic Conductivity Testing

1. Introduction

1.1. General

This work plan has been developed to describe the proposed supplemental work efforts to be performed at the Richardson Hill Landfill (RHRMLS) site. The objective of these additional evaluations is to improve the existing data base for the site and complete the ongoing Remedial Investigation (RI). The Scope of Work (SOW) outlined in this Work Plan has been developed in response to specific comments and requests for supplemental investigations at the RHRMLS, as described in USEPA correspondence dated July 2, 1993.

The procedures and methods included in this work plan are consistent with the approved RHRMLS Site Operations Plan (SOP), prepared by O'Brien & Gere Engineers, Inc., dated February 1988 and as amended in correspondence with USEPA dated April 10, 1992. The results of these supplemental investigations will be incorporated into the Final RI Report.

2. Supplemental investigations

2.1. General

The additional investigations are designed to further characterize the potential presence of dense non-aqueous phase liquids (DNAPLs) in the vicinity of and downgradient of the waste oil pit. Should DNAPLs be identified, the investigations will attempt to evaluate the potential migration pathways of the DNAPL. Additional soil samples will also be collected to evaluate the extent of PCB surficial contamination in the vicinity of the waste pit.

2.2. Soil boring installation

Four soil borings (OP-15 to OP-18) will be installed downgradient of the waste pit as shown in Figure 1. The soil borings will be completed to evaluate if DNAPL is present in the overburden downgradient of the waste oil pit.

The soil borings will be completed using hollow-stem auger drilling methods as specified in Section 2.03.1.2 of the SOP. Split-spoon samples will be collected continuously according to ASTM Method D-1586-84. Soil samples will be described, logged, and visually inspected for the presence of DNAPL by an on-site O'Brien & Gere hydrogeologist.

In addition, headspace screening will be performed on each soil sample using a photoionization detector (PID). Based on the results of visual observations and the PID screening, two samples from each soil boring will be selected for laboratory analysis. A sample collected at the overburden/bedrock interface and the sample

exhibiting the highest PID reading will be submitted for laboratory analysis of TCL volatile organic compounds (VOCs), PCBs, and oil and grease using the methods described in the amended SOP.

Subsequent to the completion of each soil boring, all downhole equipment including augers, drilling rods, and sampling equipment will be decontaminated using a high pressure portable steam cleaner and in accordance with Section 2.01.4 of the SOP.

2.3. Surface soil sampling

To provide supplemental and confirmatory surface soil analytical data, up to four additional surface soil samples will be collected. The samples will be collected at depths of 0 to 1 ft immediately downgradient of the waste oil pit. Samples will be collected in accordance with the procedures described in Section 4.03 of the SOP. Each surface soil sample will be submitted to the laboratory for PCB analysis using EPA Method 8080.

2.4. Bedrock monitoring wells

Four bedrock monitoring wells designated as MW-1D, MW-2D, MW-3D, and MW-6D, will be installed adjacent to existing shallow monitoring wells MW-1, MW-2, MW-3, and MW-6. The additional bedrock wells will be installed to supplement the existing bedrock monitoring well system and to evaluate if DNAPL is present in the bedrock, in the vicinity of and downgradient of the waste pit. The proposed locations of these wells are illustrated in Figure 1.

The bedrock monitoring wells will be double cased in accordance with the procedures discussed in Section 2.04.1 of the SOP. To assess if bedrock DNAPL is present, a six inch diameter steel casing will be set through the overburden to the bedrock interface and grouted in place with cement/bentonite grout. After sealing off the overburden with steel casing, several vertical bedrock ground water profile samples will be collected as follows:

1. Initially, the bedrock borehole will be advanced through the 6-inch diameter steel casing to a depth of 5 feet below the overburden to bedrock interface. Drilling fluids in the borehole will then be evacuated. Ground water recharge will be quantified in the open borehole.

   If ground water recharge occurs, the rate will be estimated and a representative sample will be collected to assess if DNAPL is present. The sample will be collected using a bottom loading bailer or low yield pump set with the intake at the bottom of the borehole. Samples will be submitted to the laboratory for VOC analysis. After sampling, the borehole will be grouted with cement/bentonite grout to seal the overburden/bedrock interface. The grout will be allowed to cure for a minimum of 12 hours.

2. After allowing the grout to cure, the sealed borehole will be advanced an additional 5 feet into bedrock (a total of 10 ft below the overburden/bedrock interface). As described in Step 1, any standing water in the borehole will be evacuated and allowed to recharge. The recharge will be quantified and evaluated for DNAPL, and a ground water sample collected.

3. Step 2 will be repeated until the borehole has been advanced to minimum of 10 ft below first encountered bedrock ground water. If bedrock ground water is not encountered at the overburden/bedrock interface or the first 10 ft of bedrock, the borehole will be advanced a minimum depth of 10 feet below first encountered bedrock ground water and a monitoring well installed.

Each monitoring well will be constructed of 15 feet of 0.020-inch slot, wire wound, stainless steel screen. A 2-foot sump section will be attached to the bottom of the well screen to facilitate collection of DNAPL, if present.

Subsequent to installation, the wells will be developed by initially surging the screened interval with a bailer. After surging, development water will be pumped from the well to remove fine grained formation materials. Development of each well shall proceed for a period of at least one hour or until the water discharged from

the well is relatively clear of fine grained sediments and the pH, conductivity, and turbidity measurement are stable.

Subsequent to completion of the development process, hydraulic conductivity tests will be performed on each newly installed well to evaluate the ability of the bedrock to transmit water. Hydraulic conductivity tests will be performed in accordance with the protocol included in Appendix A of this Work Plan.

2.5. Ground water sampling

Subsequent to well installation, development, and hydraulic conductivity testing, one round of ground water samples will be collected from the four newly installed monitoring wells. The samples will be collected to supplement the existing bedrock ground water quality database and to evaluate the presence of DNAPL. Ground water sampling will be performed in accordance with the procedures included in SOP Section 2.04.3. Prior to initiating the sampling event, a complete round of ground water elevations will be collected from the site monitoring well system, using an electronic water level indicator.

Modifications to the procedures described in Section 2.04.3 of the SOP will include using a 2-inch diameter stainless steel Grundfos or other appropriate sampling pump. To minimize turbidity, recharge rates, obtained during the hydraulic testing, will be reviewed to estimate the pumping rate used to evacuate each bedrock well. Subsequent to evacuation, ground water samples will be collected and submitted to OBG Laboratories, Inc. for analysis of volatile organic compounds according to EPA Methods 601/602.

During well evacuation, pH, specific conductivity and temperature measurements will be made in the field. Well evacuation will be considered complete if: 1) stabilization of the field measurements occurs; 2) a minimum of 3 to 5 well volumes is evacuated; or 3) the well can not sustain pumping and goes dry.

2.6. Field survey

Subsequent to the completion of the supplemental field investigations, a field survey will be conducted to establish the locations and elevations of the soil borings and bedrock monitoring wells. Existing site maps will be revised to include the new wells and sample locations.

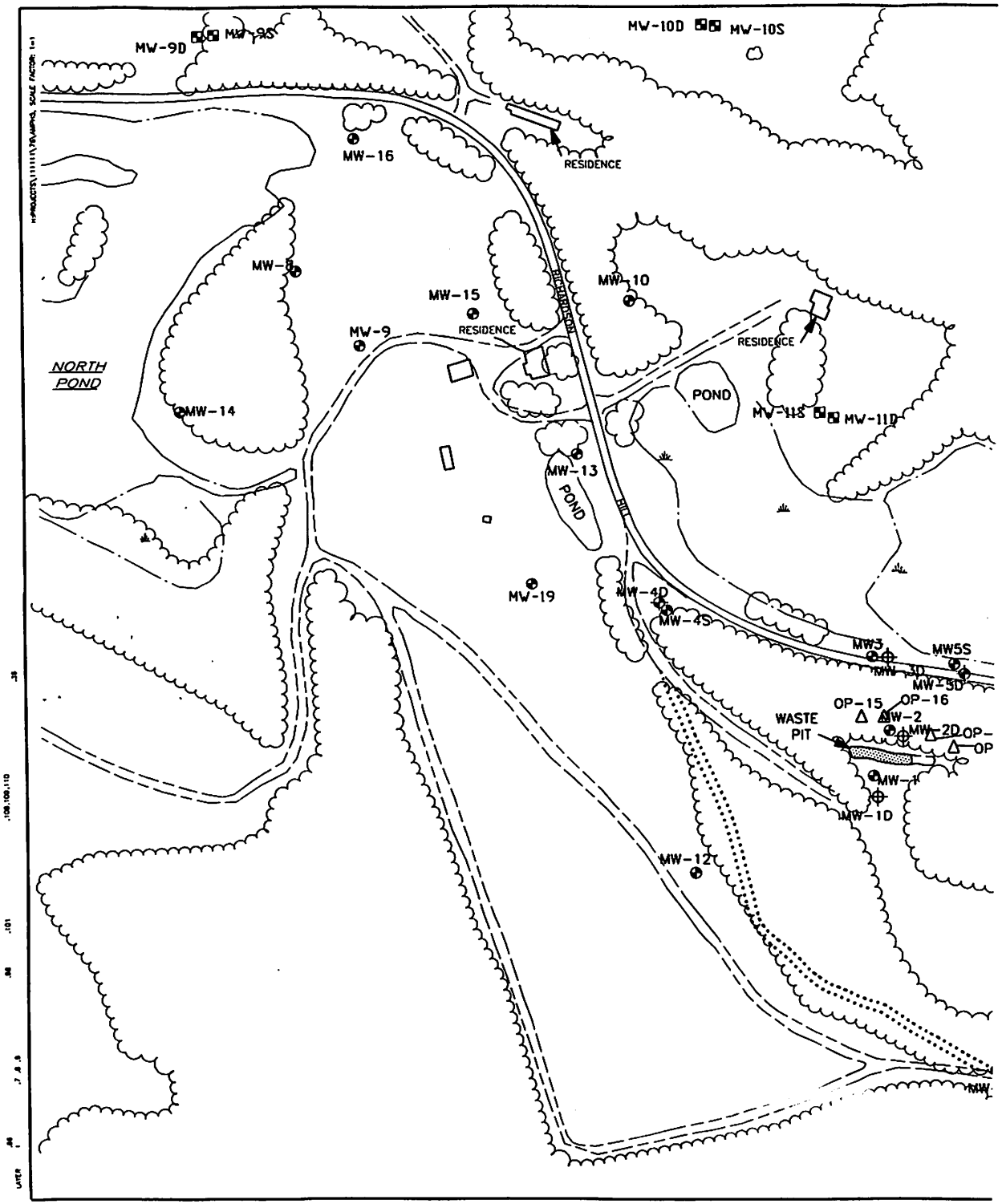
Respectfully submitted,

James T. Mickam, CPG
Vice President

Prepared by:

Timothy M. Eddy
William J. Gabriel

FIGURE


MW-9D
MW-9S
MW-10D
MW-10S
MW-16
RESIDENCE
MW-8
MW-15
RESIDENCE
MW-9
MW-10
RESIDENCE
NORTH POND
MW-14
POND
MW-11S
MW-11D
MW-13
POND
MW-19
MW-4D
MW-4S
MW3
MW5S
MW-3D
MW-5D
OP-15
OP-16
WASTE PIT
MW-2
MW-2D
OP-
OP
MW-1
MW-1D
MW-12
MW-