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1-52-130

August 6, 1999

Steven Scharf, P.E.
Project Engineer
NYSDEC - Division of Hazardous Waste Remediation
50 Wolf Road
Albany, New York 12233

RE: Groundwater Sampling Work Plan
Former Fairchild Facility
Farmingdale, New York

Dear Mr. Scharf:

As mentioned in the Remedial Design Work Plan, I am enclosing one copy of the Groundwater Sampling Work Plan. The Groundwater Sampling Plan includes the list of proposed off-site wells as well as on-site existing monitoring wells that will be sampled and analyzed as part of the pre-design investigation.

The work is scheduled to begin on August 11, 1999. Please call Mike McEachern or me if you have any questions.

Sincerely,
MAC CONSULTANTS, INC.

Kevin McHale
Project Manager/Hydrogeologist

Enclosure

GROUNDWATER SAMPLING WORKPLAN
FORMER FAIRCHILD FACILITY
MAIN PLANT SITE

Prepared for
MAIROLL CORP.

Prepared by:
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1.0 INTRODUCTION

One of the first tasks specified the pre-design phase is to sample the existing Main Plant Site (MPS) monitoring wells and selected offsite wells to establish the present MPS plume location and groundwater contaminant concentrations. This sampling round will include fourteen MPS monitoring wells installed for the RI and twelve monitoring wells south of Republic Airport. The twelve offsite wells were selected after review of observation well inventories maintained by the United States Geological Survey (USGS) .The USGS files include a record of observation wells from the USGS and Sufflok County databases. The twelve offsite wells are located along the expected groundwater flowpath of the MPS plume.

The most recent groundwater quality data on the MPS plume were collected in 1994 during the RI field investigation. The resampling of the RI wells plus the additional offsite wells will provide an updated determination of the MPS plume. In addition, sampling of onsite and offsite wells are required to plan the locations of temporary and permanent monitoring wells and to determine the plume dynamics by comparing 1994 and present plume data. Information on plume travel and contaminant concentrations since 1994, will provide empirical data that will be important to groundwater modeling efforts and predictions of future plume migration.

The following workplan describes the background and procedures to be followed in this task. The well selection criteria and all field subtasks are described in detail. The groundwater sampling and analytical methods in this task are consistent with NYSDEC requirements. Field and laboratory QA/QC procedures and deliverables will be in accord with the Department's most recent guidance.

2.0 MONITORING WELL SELECTION CRITERIA

The MPS monitoring wells were selected for resampling because these were the wells used in the RI to delineate the plume as it existed in 1994. The offsite monitoring wells were selected based on their location and depth with respect to the MPS plume as outlined below:

- Wells are located downgtradient or slightly sidegradient of the projected path of the MPS plume downgradient of Republic Airport.

- Some of the wells are between 100 feet and 250 feet deep to intercept the depth interval in which the MPS plume would be expected to occur south of the airport. Shallower wells have been selected to provide water table elevation data and for sampling to detect other VOC sources that may be present downgradient of the MPS plume.

- The wells are accessible and in good condition to ensure collection of representative groundwater samples.

3.0 FIELD CHECKING OF EXISTING MONITORING WELLS

The MPS offsite monitoring wells that were installed for the RI have been field checked and all but three were located and appeared to be in good condition. Wells MW-36D (Republic Airport), MW-31S and MW-35D (St. Charles Cemetery) could not be located due to construction activity. Representatives of the Airport and the Cemetery have agreed to assist in locating these wells.

Offsite Existing monitoring / observation wells selected for sampling south of Republic Airport are shown on Figure I. The information on these wells was obtained from USGS and SCDHS files, and a list of wells and available data on each well is in Table I. Approximately 12 wells have been selected for sampling based on suitability with respect to the selection criteria and accessibility..

The twelve offsite wells were field checked during the week of August 2, 1999. The following procedure was used to conduct the field check.

- Locate the well(s) in the field based on the location sketches obtained from the USGS and SCDHS and note the condition of the well enclosure or flush-mounted curb box.

- Open the well enclosure and examine the well cap for a locking device. Note conditions inside the well enclosure, such as standing water, damage and any obvious signs of contamination (oily sheen, staining, odors, etc.).

- Verify the identity of the well by comparing the field measurements with the well records. Note whether the well appears to be suitable for sampling.

4.0 GROUNDWATER SAMPLING

The schedule for completing the sampling of the fourteen onsite and twelve offsite wells is approximately five days.

The sampling will follow the procedures listed below:

(1) Upon arrival at each well site, enter well identification in field log notebook.

(2) Place new plastic sheeting over and around the monitoring well so that a 5 x 5 foot clean surface is created for the sampling equipment. All materials, tools and equipment will be cleaned prior to placement on the plastic.

(3) Clean the top of the well, remove well cap and place it on the plastic sheeting.

(4) Measure the depth to water below the reference point (top of casing) using a chalked, steel tape or electric sensor to the nearest 0.01 foot. The measuring device will be cleaned with phosphate-free detergent and rinsed with distilled water between measurements.

(5) Refer to the well depth and calculate the volume of standing water by multiplying the gallons per linear feet of 4-inch (or 2 inch) diameter pipe times height of standing water.

(6) Purge well with submersible pump until at least three standing water volumes have been purged in accord with USEPA and NYSDEC protocols. Record the physical appearance and temperature of the purged groundwater. Measure specific conductance, temperature and pH a minimum of three times and record a final measurement immediately following sample collection. Note: Purge water will be discharged through a granular activated charcoal (GAC) filter drum to avoid containerizing excessive purge water volumes.

(7) Prepare sample bottles to receive samples.

(8) Immediately pour the sample into the respective sample bottles. Vials used for VOC samples must be filled with no headspace or air bubbles visible once capped. Seal all sample containers according to laboratory directions.

(9) Replace well cap and lock.

(10) Discard plastic sheeting, and other expendable materials.

The sampling procedures described in this sampling plan assume that the wells have not been developed or sampled for some time. If necessary, additional sampling volumes may have to be purged if the water is severely turbid or field monitoring parameters (pH, conductivity and temperature) do not adequately stabilize. If the conditions observed at any well preclude meeting the sampling plan procedures, a sample may be collected anyway, and any nonconformances noted in the field log.

5.0 ANALYSIS PLAN

Monitoring wells will be sampled and analyzed for VOCs by Method #8260. The primary purpose of the onsite and offsite well sampling is to determine MPS plume changes that may have occurred since the RI sampling in 1994.

A New York State certified laboratory will be selected for the analytical services to be performed under this plan. The laboratory will be required to submit copies of certifications for the required analyses and QA/QC procedures.

6.0 SCHEDULE

The sampling and analytical work to be done under this task will begin within one week of NYSDEC approval of the Sampling Plan. The field work, including field checking of wells, will take approximately three weeks to complete. Analytical results will be received within 30 days of laboratory receipt of samples.

The schedule assumes that the samples will be analyzed according to ASP protocols and that a data usability report will suffice in lieu of data validation for laboratory QA/QC.

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Mairoll, Inc.
Farmingdale, New York

Table 1

OFF-SITE WELL DATA

Well Designation	Well Depth
S-1805	29
S-16479	45
S-67535	UNAVAILABLE
S-66134	144
S-10314	45
S-64220	15
S-64219	21
S-16481	45
S-43812	35
S-43813	78
S-43809	39
S-43810	71

Figure 1 - Offsite Well Location Map